
Appendix 2.4
Discussion Paper:
Slip Road 8 Alignment Options

SA1 to Agreement No. CE54/2001 (CE)
WAN CHAI DEVELOPMENT PHASE II
PLANNING AND ENGINEERING REVIEW

Discussion Paper:

Slip Road 8 Alignment Options

1 Introduction

- 1.1 The first Environmental Study Management Group (ESMG) Meeting held on 21 March 2007 raised the issue regarding the encroachment of Slip Road 8 on the Victoria Park which will affect the existing trees, recreational facilities and open spaces, with reference to S3.3.2 of the Study Brief of the WDII&CWB EIA. This discussion paper explains the considerations in examining the alignment of Slip Road 8.

2 The Need for Slip Road 8

- 2.1 Provision of essential transport infrastructure is a key element of the WDII project. The need for the Trunk Road (or Central - Wan Chai Bypass (CWB)) has been demonstrated in a district traffic study to relieve the existing east-west corridor (Connaught Road / Harcourt Road / Gloucester Road) which is already operating beyond its capacity.
- 2.2 The district traffic study also confirmed that intermediate slip road connections are essential to achieve the objectives of implementing the Trunk Road, that is, to divert traffic away from the existing east-west corridor in order to provide relief to the corridor and to the local road network. The need for the Trunk Road and the slip road connection at the Victoria Park Road / Gloucester Road / Hing Fat Street passageway has been confirmed by the Expert Panel on Sustainable Transport Planning and Central - Wan Chai Bypass (the 'Expert Panel').
- 2.3 The necessary slip road connection in Causeway Bay is indicated in **Figure 2.1**. Slip Road 8 is proposed as a slip road for traffic from Causeway Bay, Tai Hang, Fortress Hill and Tin Hau areas to enter the westbound Trunk Road tunnel, going to Central and the western districts of Hong Kong Island. The slip road will divert the heavy traffic flows away from the busy local roads.

3 Design Requirements and Constraints

- 3.1 The alignment design of highways shall be in accordance with the Transport Planning & Design Manual (TPDM) Vol. 2 "Highway Design Characteristics".
- 3.2 The traffic/safety restrictions will affect the Trunk Road lane configuration and will also constrain the alignment of Slip Road 8. It is restricted that there should be no merging or

weaving in tunnels (so slip roads entering the Trunk Road tunnel cannot join the mainline lanes but need to maintain their own lane).

3.3 The restriction on merging and weaving in tunnels means that Slip Road 8 must join the mainline tunnel as separate lane on the offside (centre of tunnel), in which case a mainline 3-lane configuration will increase to 4 lanes at the connecting location. This is so as to enable the Slip Road 8 traffic to continue through to Central rather than having to exit the Trunk Road at Slip Road 3 in Wan Chai.

3.4 The Slip Road 8 alignment is constrained by a number of land use and infrastructure constraints (shown in **Figure 3.1**).

(a) At the western end, connection is required to the offside lane of the Trunk Road tunnel (as mentioned in para. 3.3). The vertical and horizontal alignments of the Trunk Road have been designed to satisfy the overriding public need test with minimum extent of reclamation. This Trunk Road alignment is constrained by the connection to the section of Trunk Road in Central Reclamation Phase III (CRIII) at the west, the need to connect to the existing elevated IEC road structure at the east, the need to cross the MTR Tsuen Wan Line and the Cross Harbour Tunnel, allowance to be made for the proposed rail infrastructure such as the NIL and SCL, existing major services infrastructure near the harbour-front such as electricity substations and sewage treatment plans, basement level developments and piled foundation of existing developments which form physical barriers to the Trunk Road alignment. Taking into accounts the physical obstructions and constraints, and the compliance with the overriding public need test with minimum extent of reclamation; the Trunk Road alignment has been fixed. The range of carriageway level of the Trunk Road mainline varies from around -25mPD to -32mPD where Slip Road 8 may join as an offside lane.

(b) To the east, Slip Road 8 needs to connect to the existing Victoria Park Road/Hing Fat Street/Tsing Fung Street to bring traffic from Causeway Bay, Tai Hang, Fortress Hill and Tin Hau areas to Central and the Western District of Hong Kong Island. The existing at-grade road level of Victoria Park Road is around 4.3mPD.

(c) Need to cross the westbound Trunk Road Tunnel

As mentioned above, Slip Road 8 will join the mainline as an offside lane, which means that the Slip Road 8 tunnel has to cross the westbound Trunk Road Tunnel before dropping to the mainline carriageway level with maximum gradient (8%).

(d) Allowance to be made for proposed rail infrastructure (the SCL)

The Shatin-to-Central Link (SCL) will be an immersed tube tunnel from Hung Hom across the Harbour (alternative easterly and westerly alignments have been proposed), turning westwards through the Causeway Bay Typhoon Shelter (CBTS) to run within existing land along the northshore area of Wan Chai, along similar alignment as the North Hong Kong Island Line (NIL) before turning southwards under Fenwick Pier Street to Admiralty Station. The major impact on Slip Road 8 and the Trunk Road is through the CBTS. The proposed track level of the SCL landing at the Victoria Park

Road area is around -25mPD and the Slip Road 8 tunnel structure has to cross the SCL tunnel while staying in tunnel below Victoria Park Road.

(e) Major existing infrastructures

Piled foundations of the abutment and pile caps with protective dolphins of the existing Island Eastern Corridor (IEC), vertical sheet-piled seawall with anchor rods tie back to the hinterland, foundations of the footbridge constructed under the Reconstruction of Causeway Bay Flyover Project (as shown in **Figure 3.1**) form physical barriers to the alignment of Slip Road 8. There are also existing box culverts Q and R (outfall invert levels at +0.05mPD and +0.34mPD respectively) and cooling water mains in the vicinity.

(f) Existing facilities of the Victoria Park in the vicinity

Existing facilities at the north of Victoria Park include the north pavilion, a latrine, a refuse collection point, a playground, bowling green and nursery. A number of mature trees are located in the Victoria Park area, in particular along the Victoria Park Road. However, none of these trees are champion trees or registered old and valuable trees.

- 3.5 In determining the viable alignment for Slip Road 8, consideration must be given to the requirement stipulated in the Court of Final Appeal (CFA) judgement in respect of the Protection of the Harbour Ordinance (PHO) on the avoidance (or, if avoidance is not possible, the minimisation) of reclamation.
- 3.6 The CFA ruled that the presumption against reclamation in the PHO can only be rebutted by establishing an overriding public need for reclamation (the “Overriding Public Need Test”). A need should only be regarded as overriding if it is a compelling and present need. A compelling and present need goes far beyond something which is “nice to have”, desirable, preferable or beneficial. Where there is a reasonable alternative to reclamation, an overriding need for reclamation would not be made out. The extent of the proposed reclamation should not go beyond the minimum of that which is required by the overriding need. Each area proposed to be reclaimed must be justified.
- 3.7 The existing seabed level of CBTS is around -4mPD. For the tunnel structure to be below existing seabed (i.e. without reclamation) with adequate ships’ anchor embedment and structural protection (2.2m thick rock armour layer), the approximate carriageway level has to be below around -14.8mPD (including minimum vertical clearance of 5.1m for carriageway, around 1.5m thick top slab and 2m for tunnel signal, lighting, TCSS, jet fans, etc). The existing road level of Victoria Park Road is around +4.3mPD. The level difference is approximately 19m. With the maximum gradient of 8% and minimum K values of 10 for vertical crest curves and 13 for vertical sag curves, the length slip road is in the order of round 330m ($19/0.08+10 \times 8/2+13 \times 8/2 = 238+40+52=330$ m) to drop from at-grade road to below seabed level as estimated.

4 Different Alignment Options for Slip Road 8

- 4.1 All possible alignment options for Slip Road 8, moving from west to east, have been examined between connection with the offside lane of the Trunk Road westbound and the connection with the Victoria Park Road/Hing Fat Street passageway as shown in **Figure 4.1**.

Option 1- Along Victoria Park Road Westbound

- 4.2 Option 1: Slip Road 8 alignment starts from Victoria Park Road westbound, where it is connected to Tsing Fung Street Flyover and Hing Fat Street, and goes between the piled foundation of the abutment of IEC and the existing footbridge, crosses over the Trunk Road westbound tunnel and connects to the offside lane of Trunk Road mainline at around the Cross Harbour Tunnel area. The geometry of Option 1 is designed in accordance with the TPDM highway design requirements. Some intrusion into the Victoria Park is required for this option. **Figure 4.2** shows the basic layout for Option 1.
- 4.3 The basic road layout for Option 1 as shown in **Figure 4.2** allows traffic from both Hung Fat Street and Tsing Fung Street Flyover to the Trunk Road via Slip Road 8 while maintaining the following existing traffic movement:
- (i) from Hing Fat Street to Victoria Park Road (W/B);
 - (ii) from Tsing Fung Street Flyover to Victoria Park Road (W/B);
 - (iii) from IEC slip road (W/B) via Hing Fat Street right turn to the Victoria Park Road (W/B);
 - (iv) from Victoria Park Road (E/B) to Wing Hing Street and Gordon Road; and
 - (v) from Hing Fat Street to IEC slip road (E/B).
- 4.4 Variations from the basic layout for Option 1 have been derived with an objective to further minimize the impacts on Victoria Park. The following variations from the basic layout for Option 1 involve modification on the existing traffic movements as listed in section 4.3 above.
- 4.5 Option 1A: In Option 1A, the existing 3-lane Victoria Park road eastbound is reduced to 2-lane and the realigned Victoria Park road westbound is shifted northwards to take up the reduced lane of Victoria Park road eastbound in order to minimize the intrusion into the North Pavilion Garden of Victoria Park Road. **Figure 4.2a** shows the road layout for Option 1A.
- 4.6 Option 1B: In Option 1B, the realigned Victoria Park road westbound basically follows the existing alignment with restriction on the existing direct traffic movement from IEC slip road westbound via Hing Fat Street right turn to Victoria Park Road westbound. A signal junction is added for the control of traffic movement from the slip road from Hing Fat Street northbound and from Tsing Fung Street Flyover. With Option 1B, there will be no intrusion into the North Pavilion Garden of the Victoria Park Road. **Figure 4.2b** shows the road layout for Option 1B.

Option 2 – Realigned Victoria Park Road Eastbound

- 4.7 Option 2: Slip Road 8 alignment also starts from Victoria Park Road westbound, where it is connected to Tsing Fung Street Flyover and Hing Fat Street, turns northwards and across the Victoria Park Road eastbound carriageway, goes between the piled foundation of the existing elevated IEC structure, crosses over the Trunk Road westbound tunnel and connects to the offside lane of Trunk Road mainline. When Slip Road 8 alignment goes across the Victoria Park Road eastbound, three variations have been examined, Options 2A, 2B and 2C.
- 4.8 Option 2A: The existing Victoria Park Road eastbound is realigned to the northward (seaward) side and is raised to allow Slip Road 8 passing underneath it. Sufficient weaving length for the traffic from Hing Fat Street entering Slip Road 8 and from Tsing Fung Street entering Victoria Park Road westbound has been provided. Land formation is required for the realigned Victoria Park Road eastbound and approach ramp of Slip Road 8. The road connection through the playground at the North Pavilion Garden of Victoria Park is eliminated in this option. **Figure 4.3** illustrates the indicative layout and approximate road levels for Option 2A.
- 4.9 Option 2B: Instead of realigned to the northward side, the existing Victoria Park Road eastbound follows its original horizontal alignment but is raised so that Slip Road 8 can pass underneath it. The road level of Victoria Park Road is increased from around +4.5mPD (existing) to around +8mPD following the existing footprint. Whilst the reclamation for realignment of Victoria Park Road eastbound is eliminated in this option, Slip Road 8 will still be above seabed level and result in reclamation. The at-grade road connections will also intrude into the North Pavilion Garden. **Figure 4.4** illustrates the indicative layout and approximate road levels for Option 2B.
- 4.10 Option 2C: It is a further variation from Option 2B by removing the left-turn Hing Fat Street-to-Trunk Road at-grade connecting road in order to reduce the intrusion into the North Pavilion Garden has been investigated. **Figure 4.5** illustrates the indicate layout for this variation. However, by removing this at-grade connecting road there will be insufficient weaving length for the traffic from Hing Fat Street entering Slip Road 8 (via Victoria Park Road westbound instead of the deleted at-grade connecting road) and from Tsing Fung Street entering Victoria Park Road westbound. An alternative signalised junction arrangement has been considered (see **Figure 4.6**). Noted that under a free flow arrangement, the new road connection is required to cater for traffic from Hing Fat Street to the Trunk Road, otherwise, traffic from Hing Fat Street to Trunk Road and traffic from Tsing Fung Street to Victoria Park Road will need to cross over; there is insufficient weaving length available to facilitate the cross-over movement between Hing Fat Street traffic and Tsing Fung Street traffic.
- 4.11 Putting a signal control across the end of the Tsing Fung Street bridge, to separate the Hing Fat Street-to-Trunk Road and Tsing Fung Street-to-Victoria Park Road movements, will result in an unacceptable merging/weaving situation for the Hing Fat Street traffic approaching this signal. The solution will be to widen Victoria Park Road westbound into Victoria Park, to provide two full lanes westbound, one for Hing Fat Street northbound-to-Victoria Park Road and the other for Hing Fat Street southbound-to-Victoria Park Road/Trunk Road. To further separate the weaving movements, traffic from Hing Fat Street northbound-to-Trunk Road would not use the existing slip road off

Hing Fat Street, but would need to go around the outside of the dividing island, through the signalised junction at Hing Fat Street/Tsing Fung Street, i.e. the left hand northbound lane on Hing Fat Street would become a shared left and straight movement.

- 4.12 A 3-phase signalised junction, linking the new traffic signals at end of the Tsing Fung Street bridge with the signals at Hing Fat Street/Tsing Fung Street, would be required. The new signalised junction provided at the end of the bridge ramp is only about 60m away from the existing signalised junction on Hing Fat Street, which is too close according to TPDM's minimum requirement.
- 4.13 Junction performance assessment for the 2016 AM peak indicates that this junction will be operating at capacity.
- 4.14 From a junction geometry point of view, the length for the cross-over movement after the signal, for traffic from Hing Fat Street-to-Trunk Road, should be minimum 60m. Due to road level constraints, only 40m can be provided. Therefore, the proposed signalised junction will introduce an undesirable and unsafe vehicle manoeuvre.

Option 3 – Modification of Wing Hing Street

- 4.15 Option 3: Another suggestion for alternative routing of Slip Road 8 is to change Wing Hing Street from 1-way to 2-way and allow southbound traffic from King's Road, that would otherwise use Tsing Fung Street Flyover, to enter Wing Hing Street by turning right (shown in **Figure 4.7**). By doing so, traffic originally from Tsing Fung Street Flyover to Slip Road 8 will be diverted to at-grade Wing Hing Street. The idea of this proposal is to shift the eastern connection of Slip Road 8 to eastbound Victoria Park Road along the north of the North Pavilion Garden, hence, avoiding the intrusion into the Victoria Park along the westbound Victoria Park Road.
- 4.16 From traffic point of view, the affected junctions for this proposal include King's Road/Wing Hing Street, Electric Road/Wing Hing Street and Hing Fat Street/Victoria Park Road junctions. Junction performance assessment for the 2016 AM peak indicates that the function of King's Road/Wing Hing Street and Hing Fat Street/Victoria Park Road will operate over capacity, i.e. they will be overloaded.
- 4.17 Also, by converting Wing Hing Street to two-way, the existing general roadside loading and unloading activities will not be permitted, even during non-peak hours.
- 4.18 Although the traffic originally from Tsing Fung Street Flyover entering Slip Road 8 is diverted to Wing Hing Street, traffic from Hing Fat Street entering Slip Road 8 still has to turn left from Hing Fat Street northbound, hence intruding into the North Pavilion Garden.
- 4.19 Even if Slip Road 8 connection starts at the eastbound of Victoria Park Road as proposed, the connection to the Trunk Road mainline will either follow the seaward alignment as given in Option 2 (which results in realignment of Victoria Park Road eastbound and reclamation), namely Option 3A, or the southward alignment as given in Option 1 to avoid intrusion of the piled foundation of existing IEC (which results in intrusion in the playground of the North Pavilion Garden and the Victoria Park along Victoria Park westbound), namely Option 3B.

Comparison of Different Options

4.20 A summary table comparing the different options considered is given in **Table 4.1**.

Table 4.1 Comparison of Different Options

Alignment Options for Slip Road 8	Highway & Traffic Implications	Impact to Victoria Park	Reclamation for Slip Road 8	Recommendation & Re-provisioning Proposals
Option 1A	- Nil	<ul style="list-style-type: none"> - Intrusion into the North Pavilion Garden and the northern section of Victoria Park (along W/B Victoria Park Road) - Around 234 trees are affected (53 trees in North Pavilion Garden and 181 trees in other areas within Victoria Park) - No Champion Trees or Registered Old and Valuable Trees are affected 	No	<ul style="list-style-type: none"> - Compliance with the PHO - Pavilion, latrine, RCP, nursery & bowling green will be re-provisioned (Figure 4.8 and Annex A) - Landscaped deck covering the approach ramp is added (Figure 4.8) - Loss of open spaces will be compensated by the newly formed harbourfront promenade - Not recommended
Option 1B	<ul style="list-style-type: none"> - A signal junction is added for the control of traffic movement from the slip road from Hing Fat Street N/B and from Tsing Fung Street Flyover - Restriction on the existing direct traffic movement from IEC slip road westbound via Hing Fat Street right turn to Victoria Park Road westbound 	<ul style="list-style-type: none"> - No intrusion into the North Pavilion Garden - Similar intrusion into the northern section of Victoria Park as Option 1A - Around 216 trees are affected (35 trees along the slope of the swimming pool, which are of less value than the 53 trees in the North Pavilion Garden, and 181 trees in the other areas within the Victoria Park) - No Champion Trees or Registered Old and Valuable Trees are affected 	No	<ul style="list-style-type: none"> - Compliance with the PHO - Landscaped deck covering the approach ramp is added - Loss of open spaces will be compensated by the newly formed harbourfront promenade - More trees at the North Pavilion Garden have been saved as compared to Option 1A and the existing facilities including the pavilion, latrine, RCP would not be affected. Other affected facilities in the Victoria Park are similar to Option 1A. - The highway and traffic implications have been considered acceptable by TD. - The recommended option
Option 2A	- Nil	<ul style="list-style-type: none"> - Minimal intrusion into the North Pavilion Garden 	Yes	<ul style="list-style-type: none"> - Not in compliance with PHO where there is an alternative to reclamation. - Not recommended

Alignment Options for Slip Road 8	Highway & Traffic Implications	Impact to Victoria Park	Reclamation for Slip Road 8	Recommendation & Reprovisioning Proposals
Option 2B	- Insufficient weaving length	- Some intrusion into the North Pavilion Garden	Yes	- Not in compliance with PHO where there is an alternative to reclamation. - Does not comply with highway design standards, and adverse traffic impacts - Not recommended
Option 2C	- The alternative signalised junction is found not viable	- Some intrusion into the North Pavilion Garden	Yes	- Not in compliance with PHO where there is an alternative to reclamation. - Does not comply with highway design standards, and adverse traffic impacts - Not recommended
Option 3A	- Junctions are overloaded - Existing loading/unloading activities along Wing Hing St will be restricted	- Some intrusion into the North Pavilion Garden	Yes (Similar to Option 2)	- Not in compliance with PHO where there is an alternative to reclamation. - Adverse traffic impacts - Not recommended
Option 3B	- Junctions are overloaded - Existing loading/unloading activities along Wing Hing St will be restricted	- Intrusion into the North Pavilion Garden and the northern section of Victoria Park (along W/B Victoria Park Road)	No	- Compliance with the PHO - Adverse traffic impacts - Not recommended

4.21 By comparing the different options in respect of the highway and traffic implications, the impact to Victoria Park and the corresponding reprovisioning of affected facilities, and the compliance with PHO, as can be seen, neither Options 2 nor 3 and their variations perform as well as Option 1. Within the variations in Option 1, Option 1B does not affect the existing trees and facilities in the North Pavilion Garden. It is recommended to adopt Option 1B as the alignment for Slip Road 8.

5 Comparison of Recommended Slip Road 8 Alignment Option with Previous Proposal under WDIICFS

Flyover Option under WDIICFS

- 5.1 Under the previous WDII Comprehensive Feasibility Study (WDIICFS) with the EIA Report approved, the Trunk Road was in flyover at the Causeway Bay area and connects to the existing IEC in elevated structure. The road layout at the Causeway Bay area is given in **Figure 5.1**. It is noted that the previous scheme with the pedestrian deck also has some intrusion into planting area at the North Pavilion Garden of Victoria Park.

Comparison of Recommended Option and Flyover Option under WDIICFS

- 5.2 A summary table comparing the different options considered is given in **Table 5.1**.

Table 5.1 Comparison of Recommended Option and Flyover Option under WDIICFS

Alignment Options for Slip Road 8	Highway & Traffic Implications	Impact to Victoria Park	Reclamation for Slip Road 8	Recommendation & Reprovisioning Proposals
Recommended Option (Option 1B)	<ul style="list-style-type: none"> - A signal junction is added for the control of traffic movement from the slip road from Hing Fat Street N/B and from Tsing Fung Street Flyover - Restriction on the existing direct traffic movement from IEC slip road westbound via Hing Fat Street right turn to Victoria Park Road westbound 	<ul style="list-style-type: none"> - No intrusion into the North Pavilion Garden - Some intrusion into the northern section of the Victoria Park 	No	<ul style="list-style-type: none"> - Compliance with the PHO - Nursery & bowling green will be reprovioned (Figures 4.8 and Annex A) - Landscaped deck covering the approach ramp is added (Figure 4.8) - Loss of open spaces will be compensated by the newly formed harbourfront promenade - The highway and traffic implications have been considered acceptable by TD. - The recommended option
Flyover Option under WDII CFS	- Nil	<ul style="list-style-type: none"> - Some intrusion into the North Pavilion Garden and northern section of the Victoria Park 	Yes	<ul style="list-style-type: none"> - Not in compliance with PHO where there is an alternative to reclamation. - Not recommended

- 5.3 By comparing the recommended option and the previous option under WDIICFS, both options involve some intrusion into the Victoria Park whilst the recommended option (i.e. Option 1B) serves the best in compliance with the PHO. Option 1B outweighs previous scheme under WDIICFS.

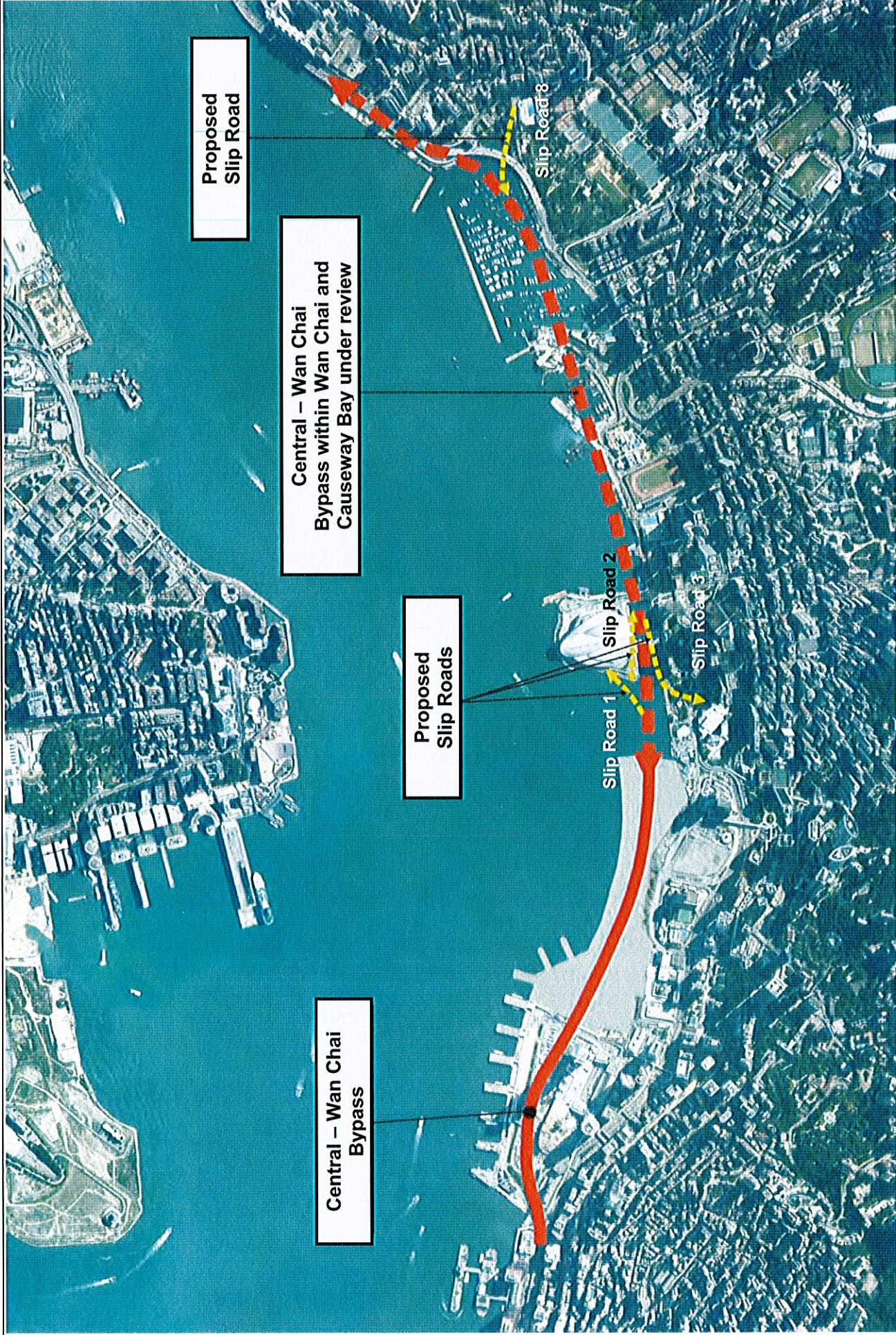
6 Public Engagement Activities

- 6.1 To achieve a better understanding of the opportunities for waterfront enhancement and to ensure a high degree of community support for the future draft OZP and the draft Recommended Outline Development Plan (RODP), a 3-stage Public Engagement Strategy has been formulated under the public engagement exercise, namely the “Harbour-front Enhancement Review (HER) – Wan Chai, Causeway Bay and Adjoining Areas”, which is being carried out under the guidance of the Harbour-front Enhancement Committee (HEC) Sub-committee on WDII Review. The results of the HER project will provide inputs to the WDII Review. This comprises the following:
- “Envisioning Stage” – Public to provide their visions, wishes and concepts, as well as to compile Sustainability Principles and Indicators as a basis for the development and evaluation of the Concept Plans.
 - “Realization Stage” – Public to evaluate Concept Plan(s) to reach consensus on planning proposals.
 - “Detailed Planning Stage”- Ensure draft OZP and draft RODP reflect the consensus view on the planning of the area.
- 6.2 Under the first stage of the HER project, the Envisioning Stage, five public forums and two community design charrettes were convened during May to July 2005, and opinion surveys were carried out. These public engagement activities were well received by the public, in particular by the key stakeholders, as providing a platform for thorough exchange of views, rational discussions and consensus building.
- 6.3 The public’s views collected and findings of the Envisioning Stage are presented in a Public Engagement Report, March 2006. The report can be viewed on the HEC website at: http://www.harbourfront.org.hk/eng/content_page/doc/engagement_report/Main_Report.pdf.
- 6.4 In addition, discussions with the Town Planning Board, Legislative Council (LegCo), District Councils and relevant statutory and advisory bodies have also been held, as part of an on-going and continuous process of public engagement for seeking consensus on the project proposals. In particular, the Town Planning Board, relevant District Councils, LegCo Planning Lands and Works (PLW) Panel, Transport Advisory Committee and professional institutions were further engaged from April to May 2006 on the findings regarding alignments and construction forms for the Trunk Road and harbour-front enhancement ideas.
- 6.5 The general sentiment of the public, in respect of the Trunk Road ideas and aspirations for harbour-front enhancement, expressed through the Envisioning Stage consultation, includes:
- a preference for having the Trunk Road in tunnel;
 - generally, an acceptance of the need for reclamation for shallow tunnel construction at the HKCEC and along the Wan Chai shoreline;
 - but, rather have tunnel options that do not result in reclamation in the Causeway Bay Typhoon Shelter.

- 6.6 Following the conclusion of the public engagement activities of the Envisioning Stage, with the “Envisioning Stage – Consolidation Forum”, a Trunk Road scheme that can meet the requirement of the PHO (Tunnel Variation 1) has been adopted as the basis for the preparation of Concept Plan with the endorsement by the HEC Sub-Committee on WDII Review in June 2006. This Concept Plan was reviewed by the public under the “Realisation Stage” public engagement, which involved six roving exhibitions, a collaborators’ working session, two harbour walks, two community workshops and a consensus building town hall meeting. The “Realisation Stage” was completed in early December 2006. These activities were widely publicized. Relevant information have been posted onto the HEC website. The Concept Plan was also presented and discussed in the Town Planning Board, Legislative Council (LegCo) and District Councils, as part of an on-going and continuous process of public engagement activities, from August to November 2006.
- 6.7 As can be seen, the development of the WDII proposal has gone through a series of continuous public engagement activities. In this public participation process, the implications of Slip Road 8 and the impacts to the northern section of Victoria Park under different Trunk Road variations have been presented. Reference is made to the “HEC Report on Trunk Road Alignments & Harbour-Front Enhancement” which have been posted onto the HEC website. The impacts to the Victoria Park (i.e. affected facilities including the bowling green, nursery, pavilion, latrine and playground, and affected trees) have also been presented to the District Councils in May 2006.
- 6.8 Throughout the public engagement exercise, many public views and opinions were received. Of which, there are submissions proposing works substantially intruding into the Victoria Park with realignment of Victoria Park Road southwards. The Eastern District Council held a concept design competition “A New Face for the Eastern Harbourfront” and there are also winning proposals including works within the Victoria Park. Examples of these public submissions and winning entries are given in **Figure 6.1**.

7 Conclusion

- 7.1 A slip road connection to the Trunk Road is needed in Causeway Bay: Slip Road 8 taking traffic from the Causeway Bay, Tai Hang, Fortress Hill and Tin Hau areas to Central and the western districts of Hong Kong Island. The need for Slip Road 8 has been confirmed by the Expert Panel.
- 7.2 The design requirements and site constraints for Slip Road 8 have been presented. Different alignment options of Slip Road 8 have been examined and the implications on highway and traffic, Victoria Park and extent of reclamation have been compared.
- 7.3 In conclusion, it is recommended to adopt Option 1B as presented in **Figure 4.2b**, i.e. Slip Road 8 alignment starts from Victoria Park Road westbound, where it is connected to Tsing Fung Street Flyover and Hing Fat Street, and goes between the piled foundation of the abutment of IEC and the existing footbridge, crosses over the Trunk Road westbound tunnel and connects to the offside lane of Trunk Road mainline at around the Cross Harbour Tunnel area. The recommended Option 1B is in compliance with the PHO in respect to the CFA ruling and conforms to the overriding public need test with avoidance of reclamation where this is possible. The intrusion into Victoria Park and the impact to the existing facilities has been minimized while site constraints have been avoided and highway design requirements have been met.



Proposed Slip Road

Central - Wan Chai Bypass within Wan Chai and Causeway Bay under review

Proposed Slip Roads

Central - Wan Chai Bypass

Slip Road 8

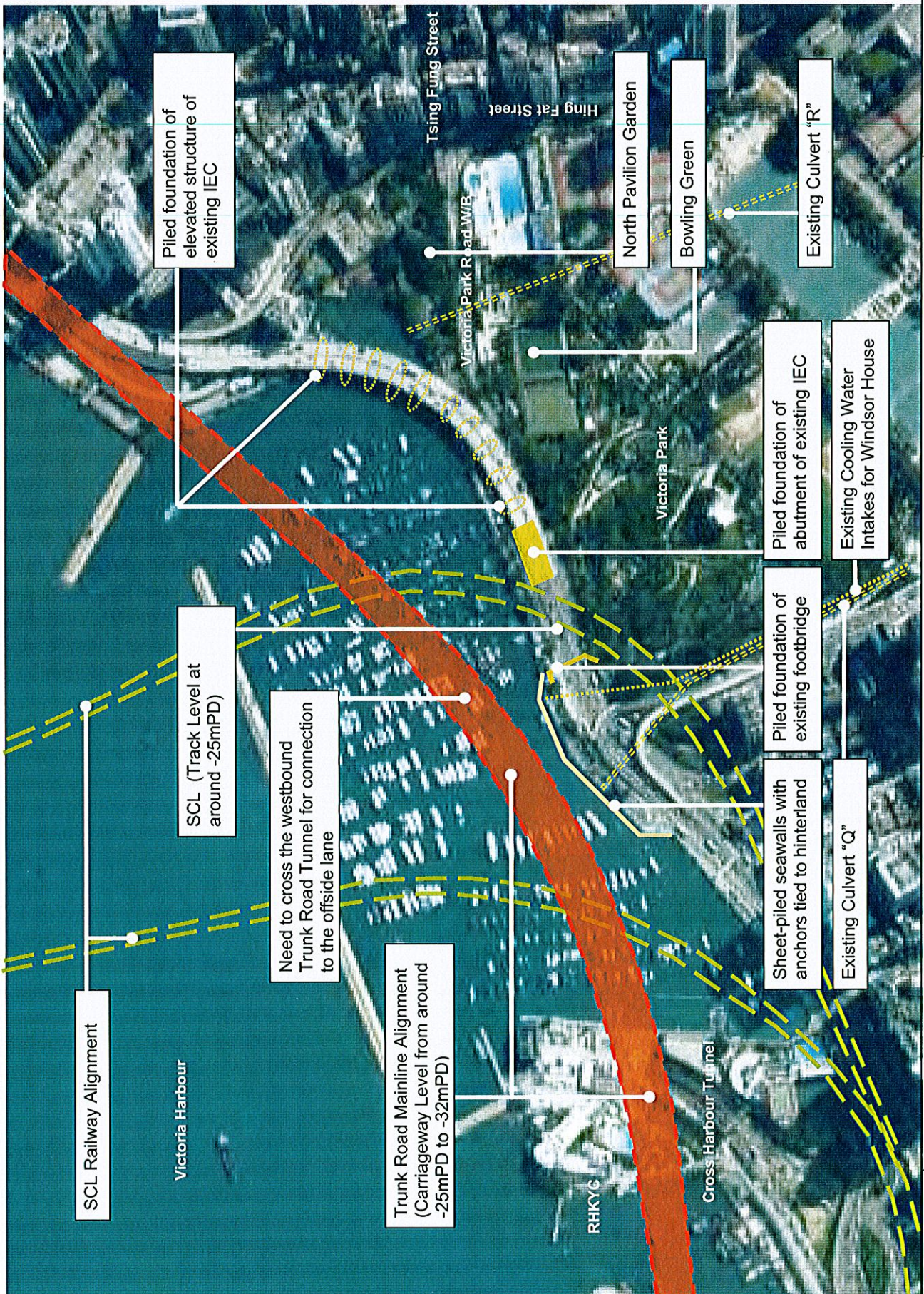
Slip Road 2

Slip Road 3

Slip Road 1

Wan Chai Development Phase II - Planning and Engineering Review
Slip Road Connections for Central Wan-Chai Bypass

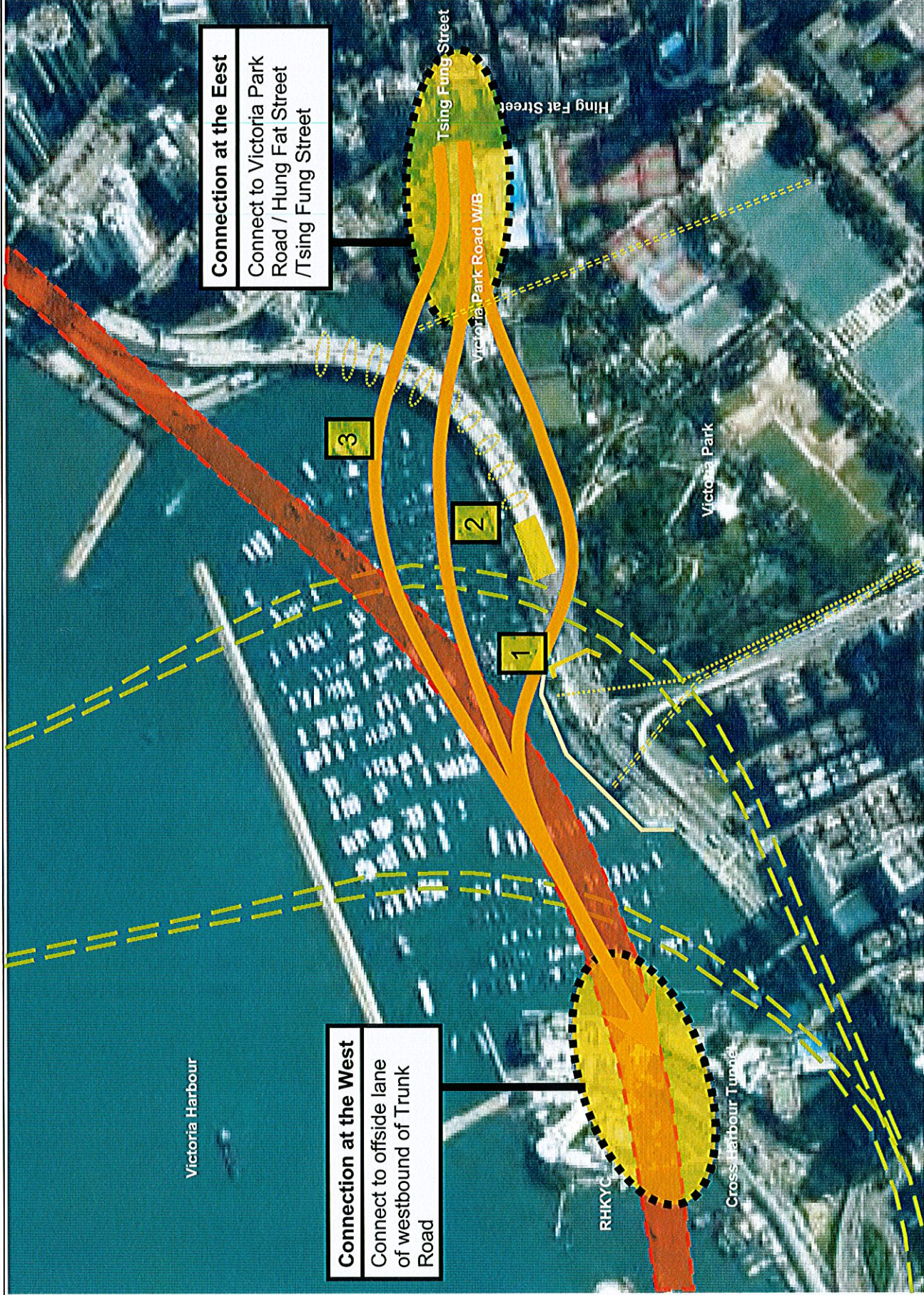
Figure 2.1

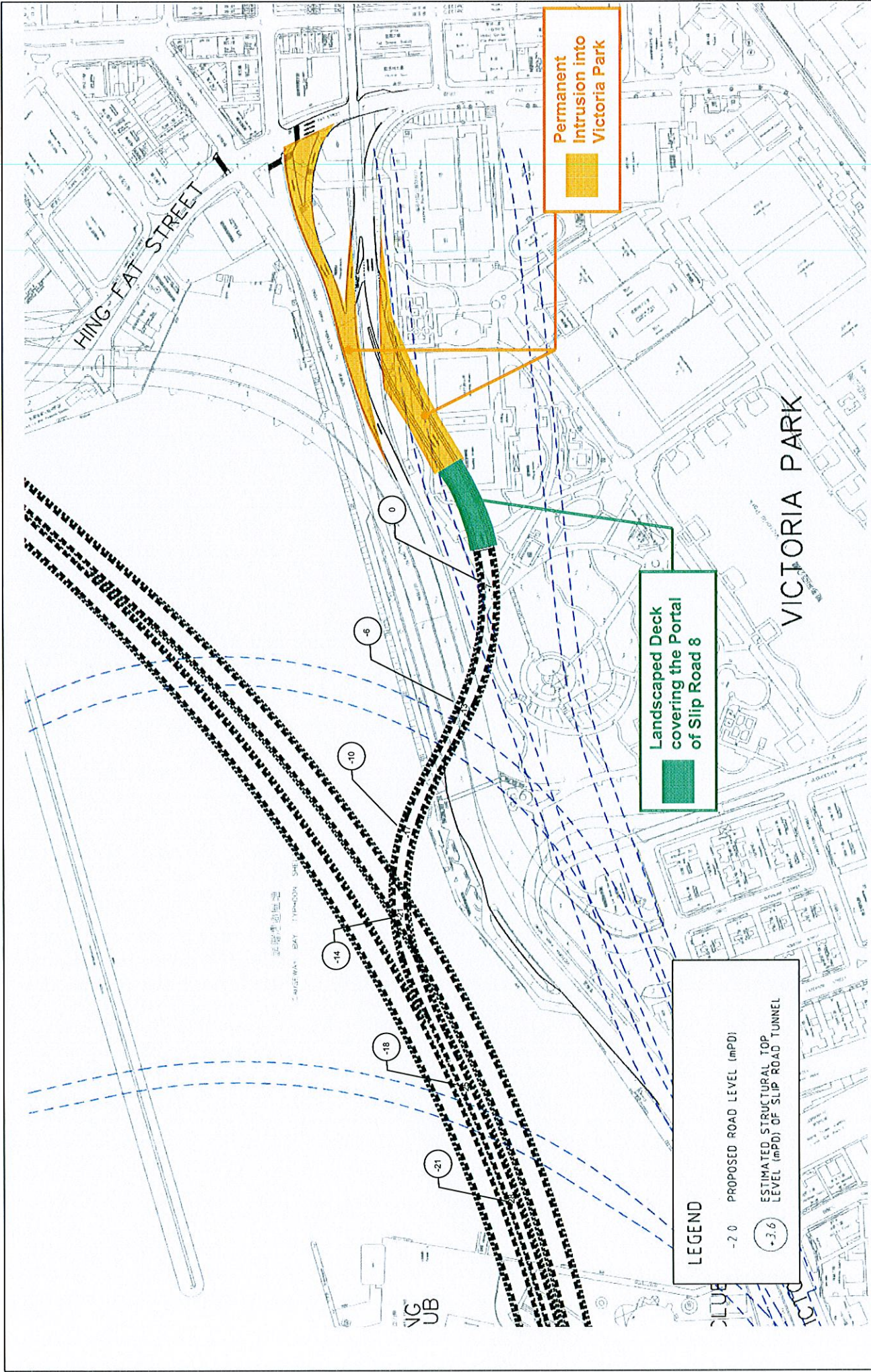


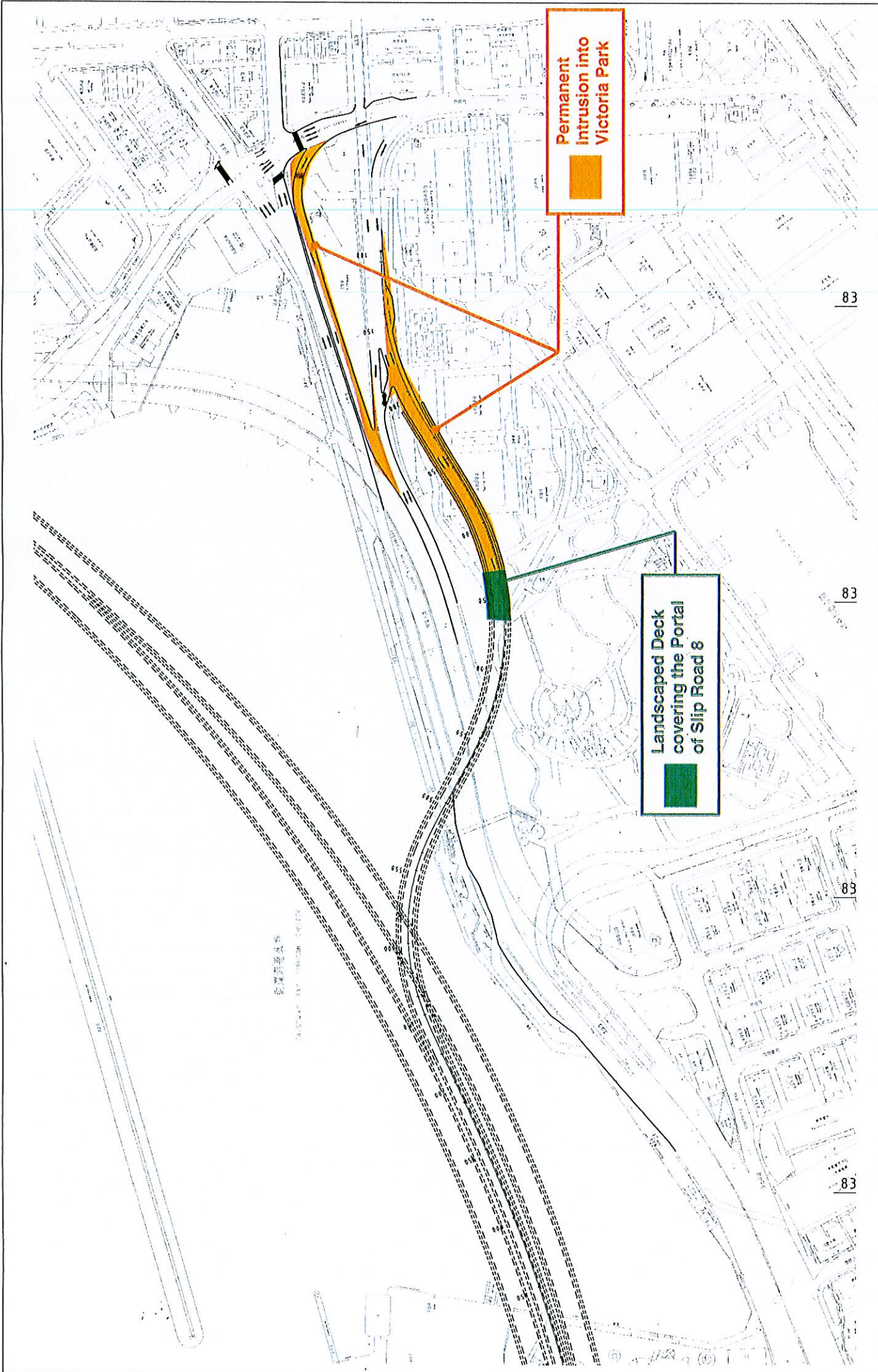
Wan Chai Development Phase II – Planning and Engineering Review

Existing Land Uses and Infrastructures

Figure 3.1

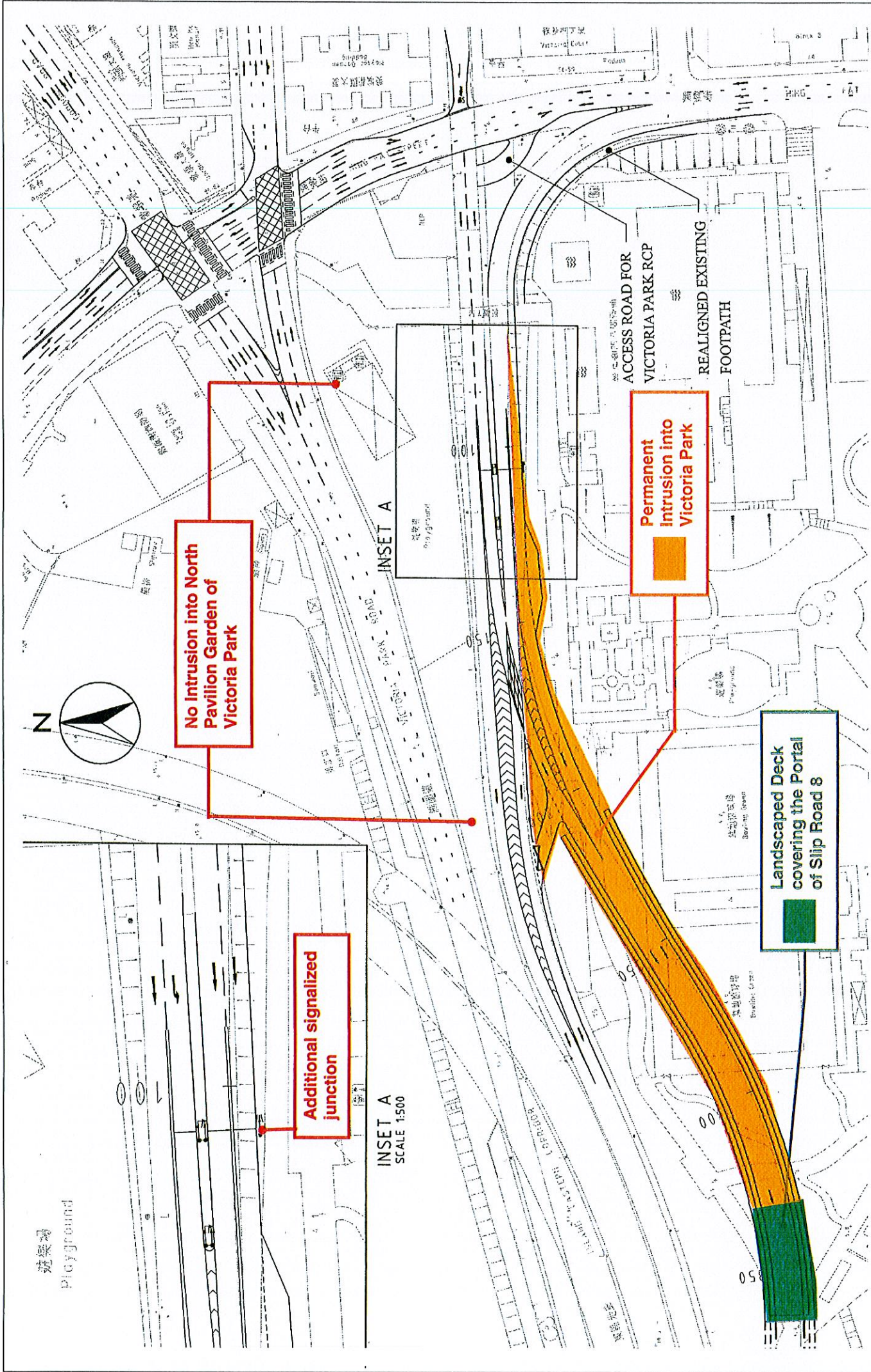






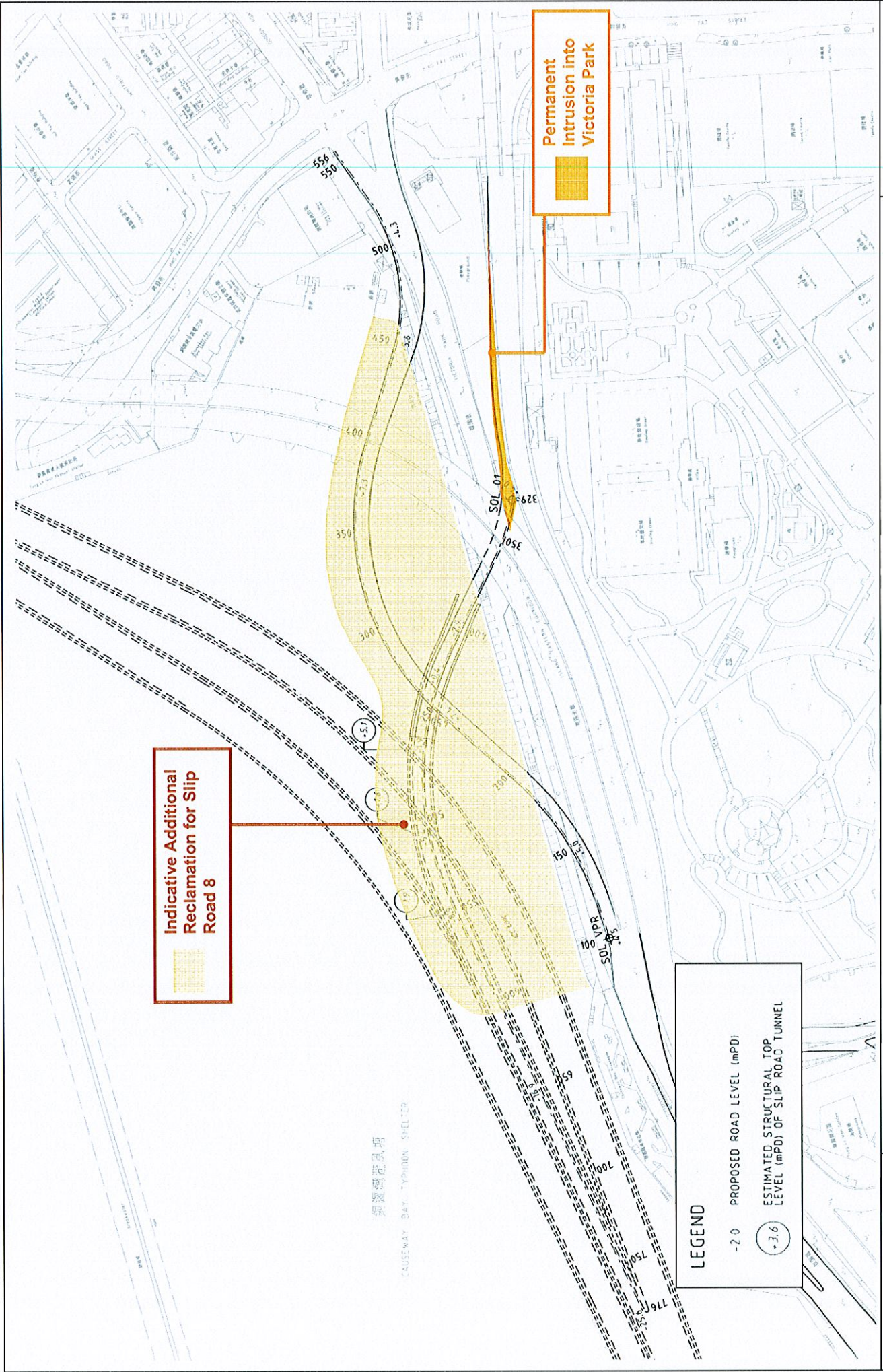
Wan Chai Development Phase II – Planning and Engineering Review
Option 1A for Slip Road 8

Figure 4.2a



Wan Chai Development Phase II – Planning and Engineering Review
Option 1B for Slip Road 8

Figure 4.2b



Wan Chai Development Phase II – Planning and Engineering Review
Option 2A for Slip Road 8

Figure 4.3

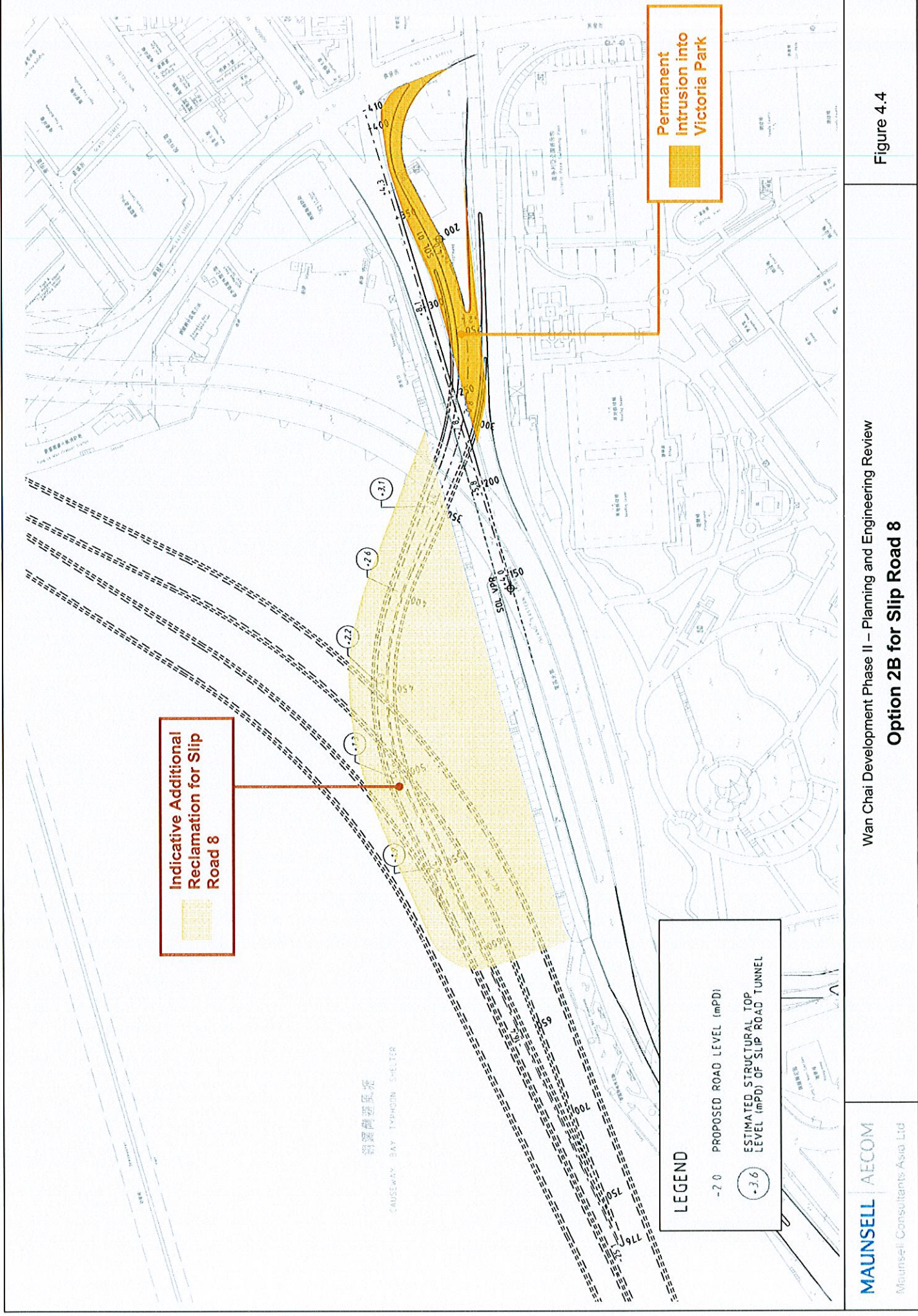
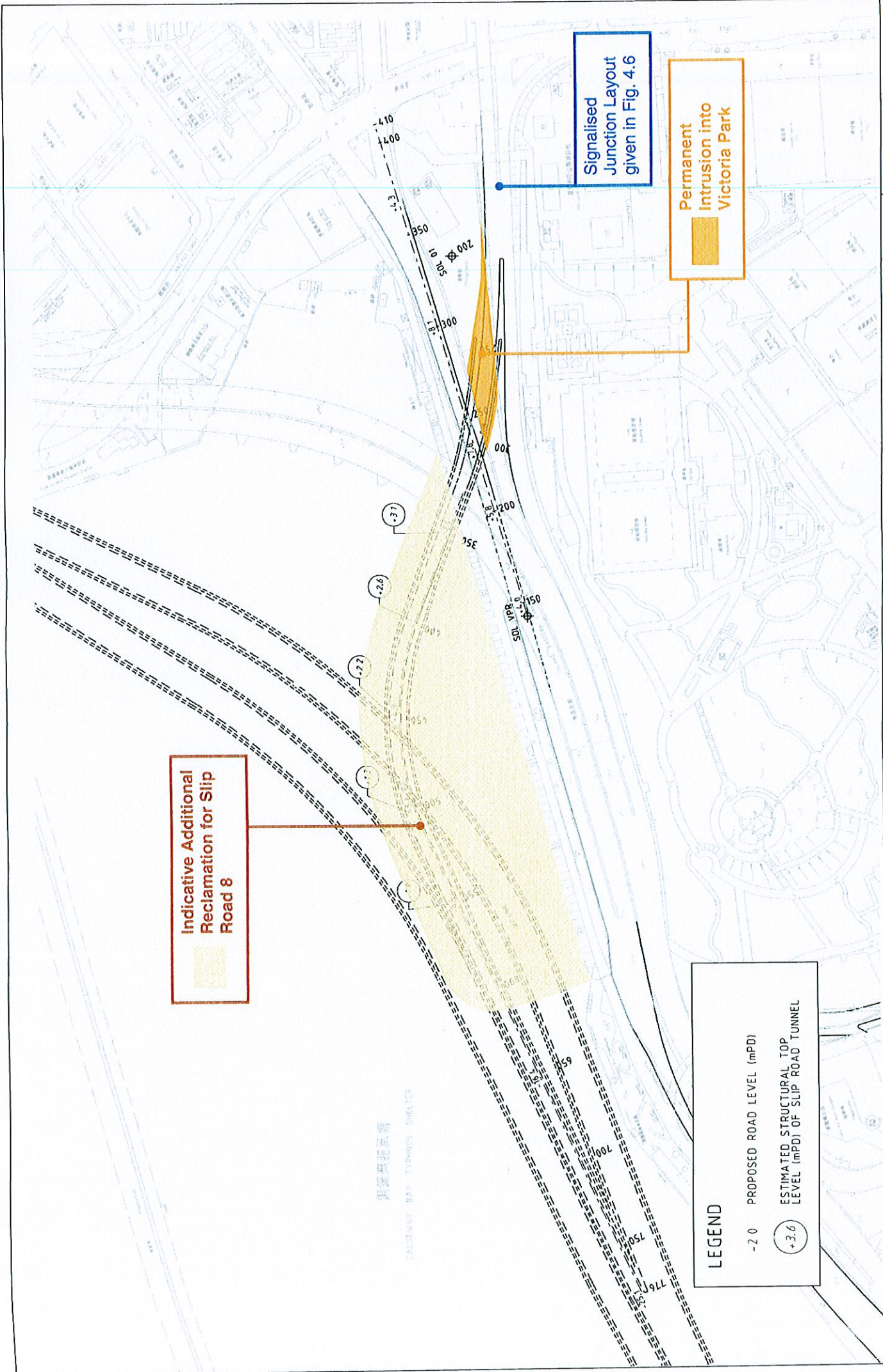


Figure 4.4

Wan Chai Development Phase II – Planning and Engineering Review

Option 2B for Slip Road 8

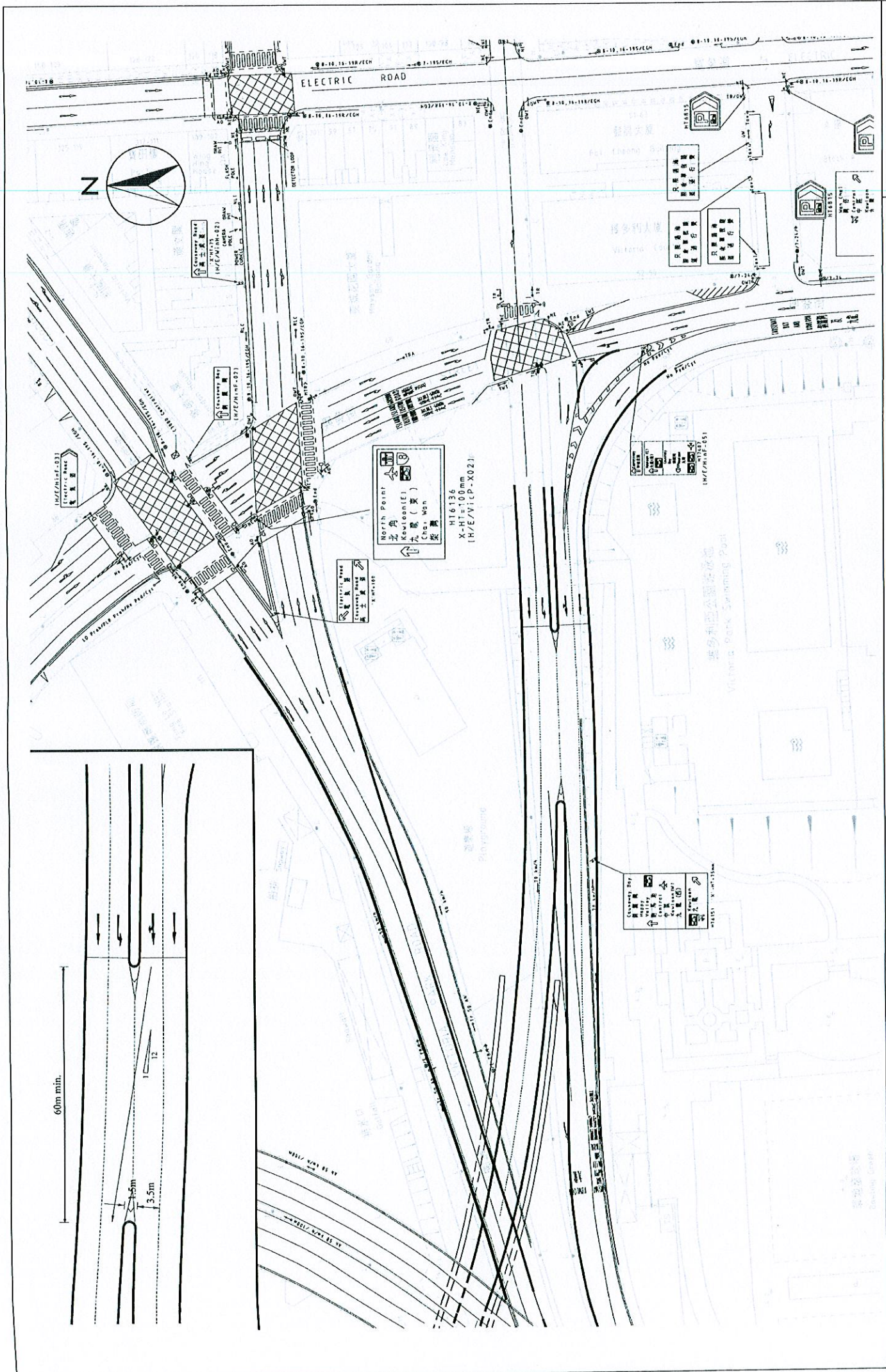


Indicative Additional Reclamation for Slip Road 8

Signalised Junction Layout given in Fig. 4.6

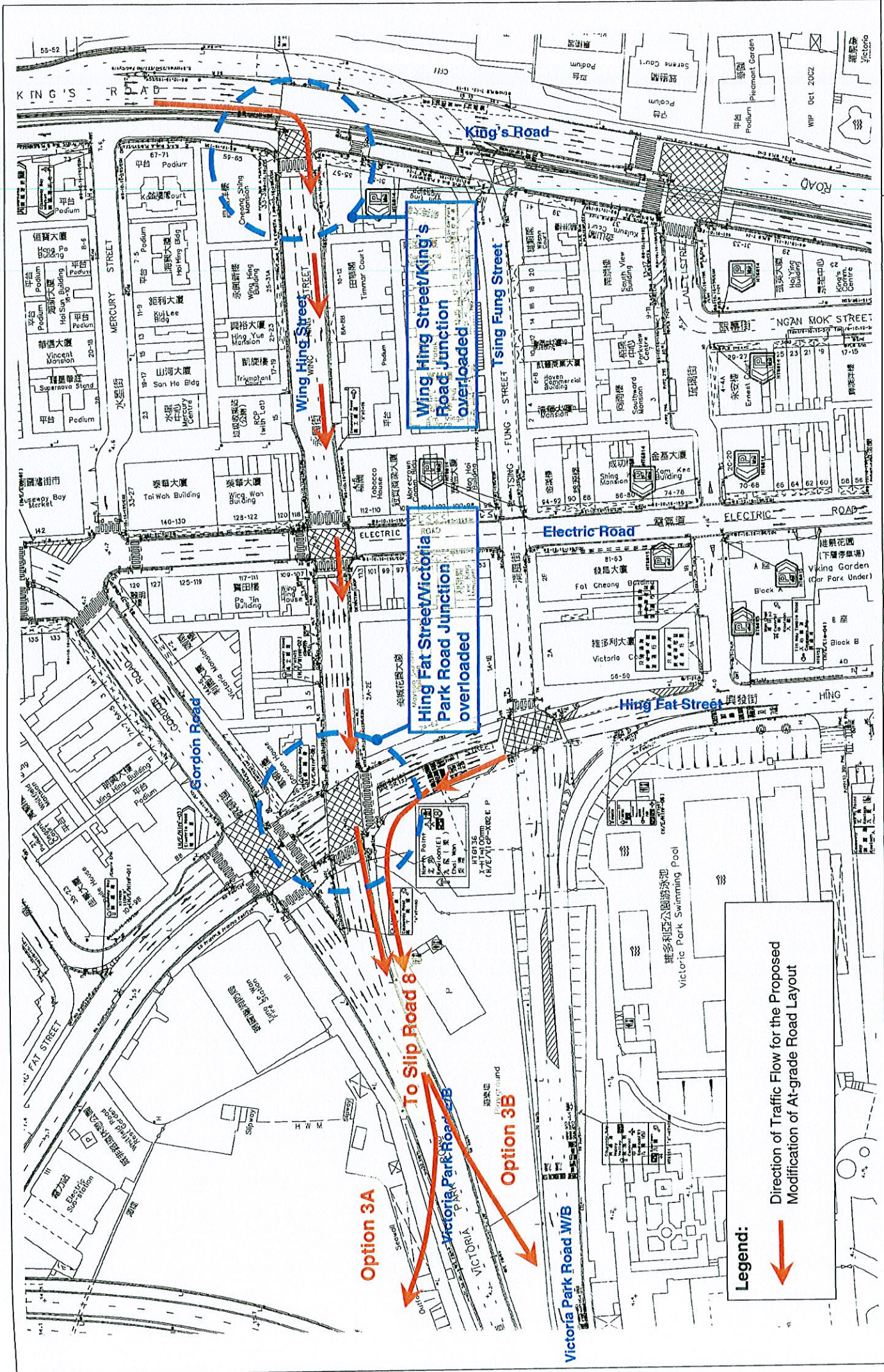
Permanent Intrusion into Victoria Park

LEGEND
 -2.0 PROPOSED ROAD LEVEL (mPD)
 (+3.6) ESTIMATED STRUCTURAL TOP LEVEL (mPD) OF SLIP ROAD TUNNEL



Wan Chai Development Phase II – Planning and Engineering Review
Alternative Signalised Junction for Option 2C

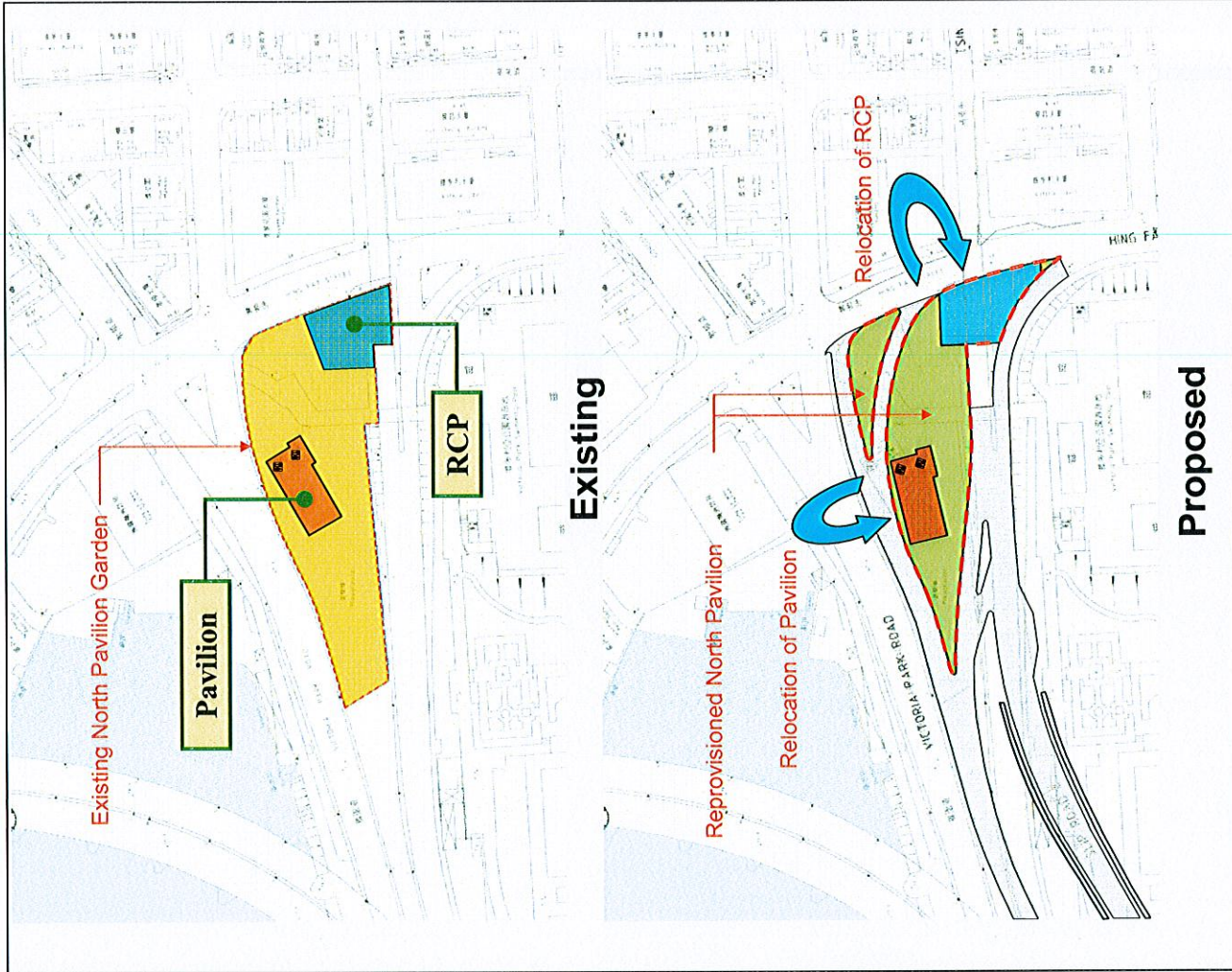
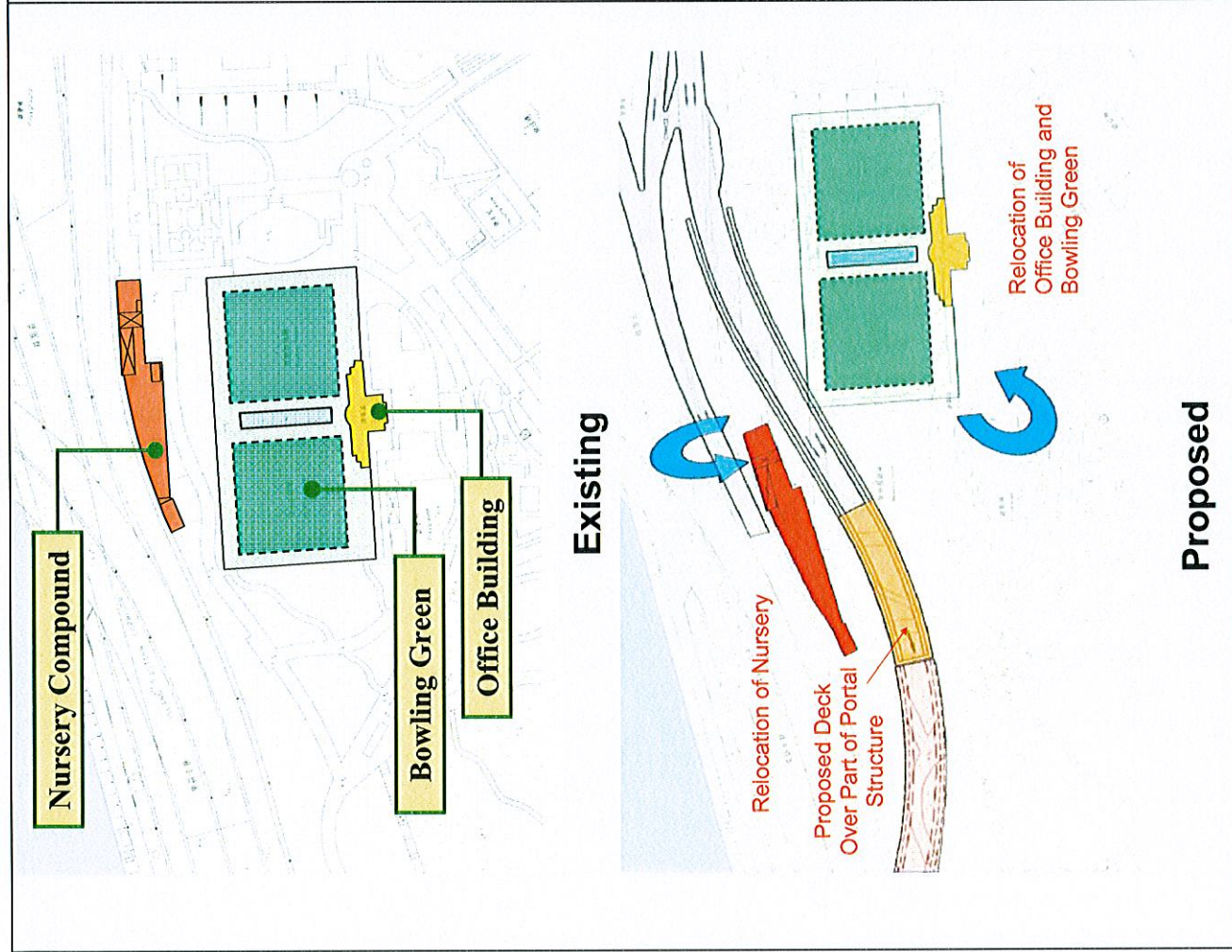
Figure 4.6

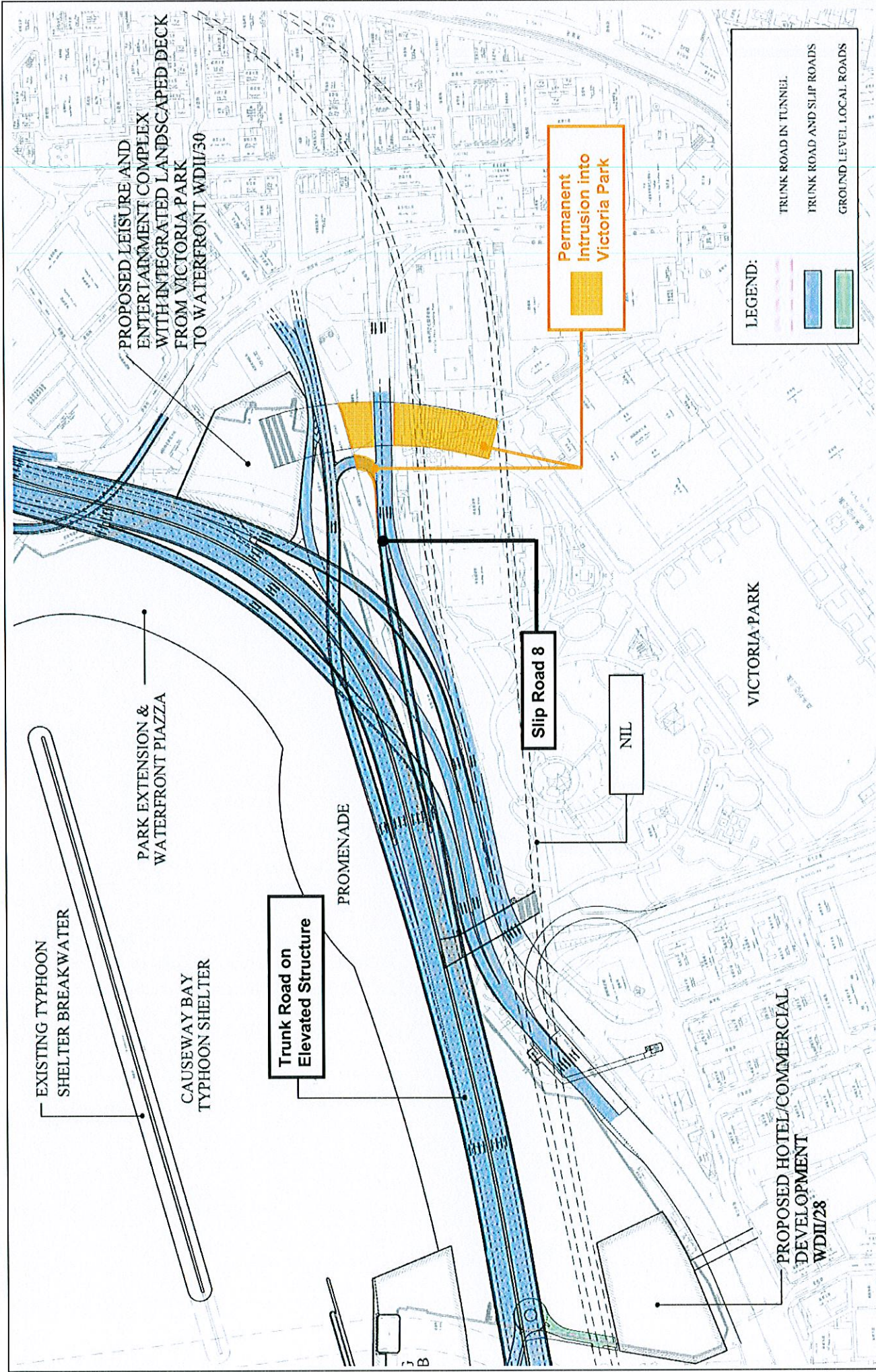


Wan Chai Development Phase II – Planning and Engineering Review

Option 3 for Slip Road 8

Figure 4.7





Wan Chai Development Phase II – Planning and Engineering Review

Original WDIICFS Flyover Option

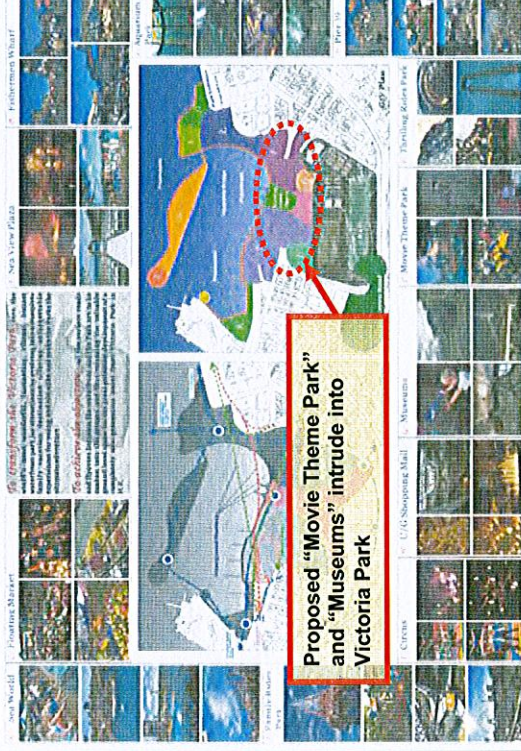
Proposal from Design Competition



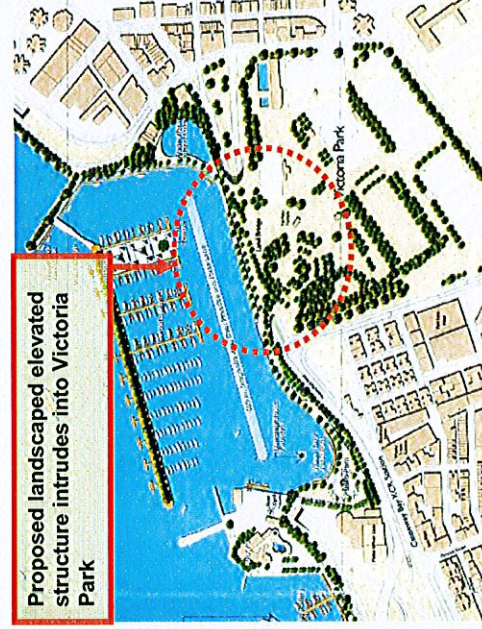
Written Submission from Swire Properties



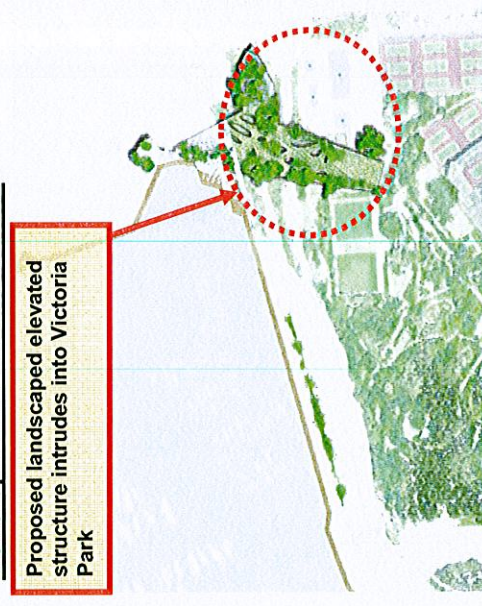
Proposal from Design Competition



Written Submission from RHKYC



Written Submission from Wharf Estate Development Ltd. and others



Annex A

Alternative Options for Reprovisioning of Affected Facilities at Victoria Park

1. The recommended Option 1B of Slip Road 8 will not affect the North Pavilion Garden of the Victoria Park. The pavilion, latrine, refuse collection points and trees at the North Pavilion Garden will all be maintained.
2. The affected facilities within the Victoria Park have been minimized to the nursery compound and the bowling green along the north boundary of the Victoria Park. There are two existing bowling greens and only the west bowling green is affected. The east bowling green can be retained.
3. Three alternative options for full-scale reprovisioning of the west bowling green have been examined and presented in Sketches 368A to 370A. The proposed location of the reprovisioned nursery compound is just adjacent to the existing location, which is considered as the nearest available location.
4. **Option 1:** The west bowling green is reprovisioned to the east of the east bowling green where the existing Children's Play Area "3" and the Courtyard Garden "2" are located. The bowling green office is relocated towards the east and it is still between the greens. Sketch 368A illustrates the proposed layout for Option 1.
5. The existing layout of the bowling greens can be maintained in Option 1, including the north-south orientation and the side-by-side arrangement of the two bowling greens. The existing layout of the bowling greens is the most preferable arrangement for the bowling green users and it facilitates the arrangement for lawn bowling competitions, in which the users of the two greens can see each other side-by-side and both of them are under the same direction of sunlight.
6. The existing Children's Play Area "3" can be relocated to the original location of the west bowling green. As only a small portion of the Courtyard Garden "2" is affected, it can be compensated by extending it to the landscaped area on the two sides of the existing Courtyard Garden "2" as shown in Sketch 368A. The existing footpath is reprovisioned along the east boundary of the bowling green and it can also be reprovisioned through the existing footpath along the edge of the swimming pool.
7. In Option 1, the reprovisioned bowling green can be constructed prior to the closure of the existing bowling green as it located at a new location away from the existing west bowling green.
8. The total number of trees affected is estimated to be around 160 numbers. Out of these 160 numbers of trees, around 35 numbers are attributed to the reprovisioning of the Courtyard Garden "2" based on the assumption that the entire Courtyard Garden "2" will be reconstructed although only a small south portion of which will be occupied by the reprovisioned bowling green. No trees will be affected by the reprovisioning of the

existing Children's Play Area "3" to the existing west bowling green and there will be space area for compensatory planting to integrate with the design of the reprovisioned Childing's Play Area "3" at the existing west bowling green area.

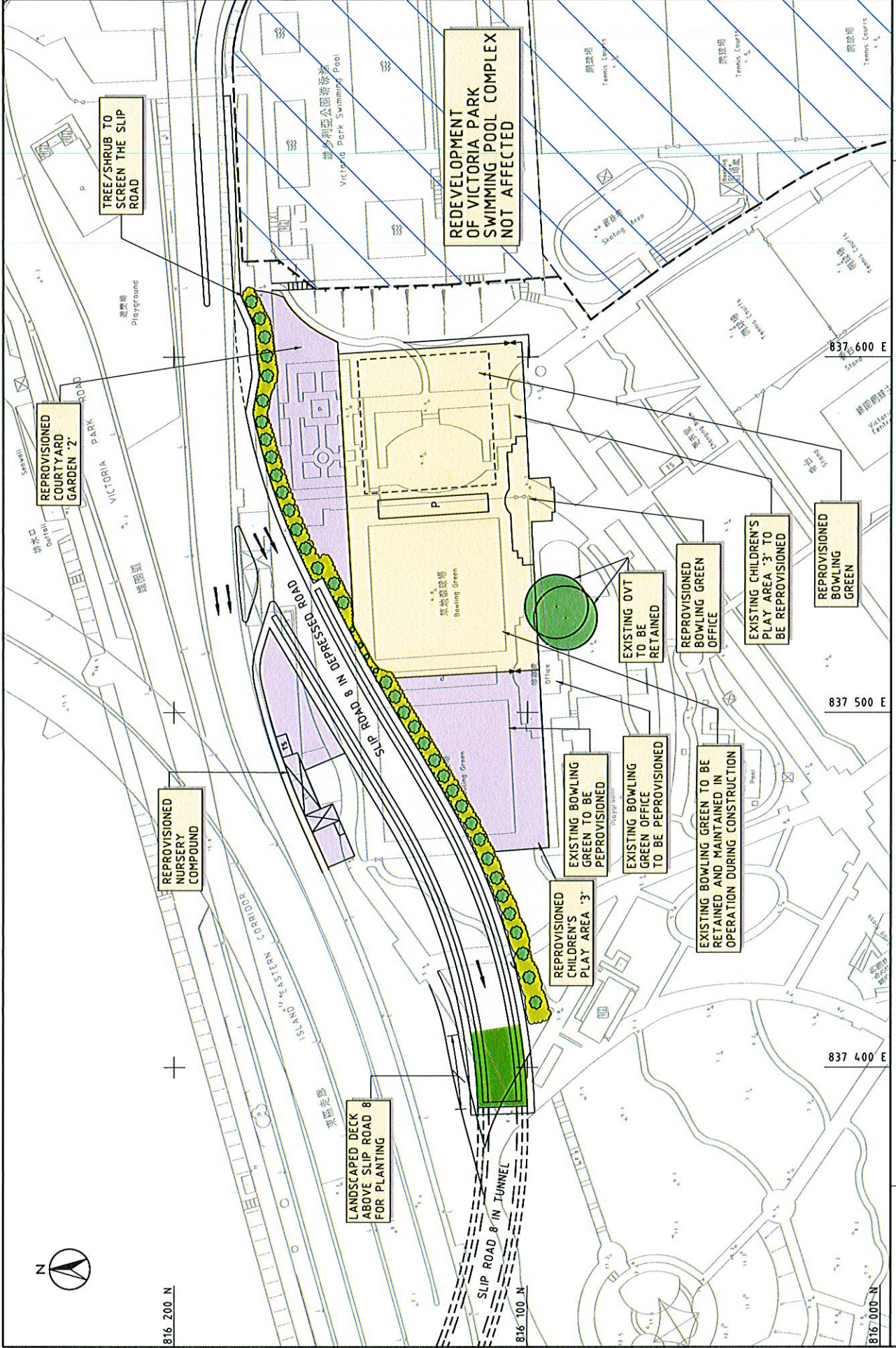
9. The two existing old and valuable trees (OVTs) next to the entrance of the bowling green office are retained in Option 1.
10. **Option 2:** The reprovisioned bowling green and the bowling office is shifted southwards to occupy the area of the existing Children's Play Area "2A" and "2B" and the orientation of the west bowling green is skewed from the north-south direction. Sketch 369A illustrations the proposed layout for Option 2.
11. The existing layout of the bowling greens cannot be maintained in Option 2. The orientation west bowling green is skewed from the north-south direction, which is adopted in the east bowling green. The users of the two greens cannot see each other directly side-by-side and they are under the different direction of sunlight, which is not preferable to the users, especially during competitions.
12. The existing Children's Play Area "2A" and "2B" occupied by the reprovisioning of bowling green and the office can be relocated to the area next to the new skating rink under the "Redevelopment of Victoria Park Swimming Pool Complex" project.
13. In Option 2, the reprovisioned bowling green occupies part of the existing west bowling green area. The existing west bowling green, the Children's Play Area "2A" and "2B" have to be closed during the construction of the reprovisioned bowling green.
14. The total number of trees affected is estimated to be around 62 numbers. Although the number of tree affected is less than Option 1, it has to be noted that if the existing Children's Play Area "2A" and "2B" are relocated to the area next to the new skating rink under the "Redevelopment of Victoria Park Swimming Pool Complex" project, the opportunity for planting at that area is lost. This loss of planting opportunity should also be taken into account when assessing the landscape impacts.
15. The two existing OVTs next to the entrance of the bowling green office are retained in Option 2.
16. **Option 3:** Similar to Option 2, the reprovisioned bowling green and the bowling office is shifted southwards to occupy the area of the existing Children's Play Area "2A" and "2B" in Option 3 but the orientation of the west bowling green is maintained in north-south direction. Sketch 370A illustrations the proposed layout for Option 3.
17. Although the north-south orientation of the reprovisioned bowling green is maintained, the users of the two greens still cannot see each other directly side-by-side, which is not preferable to the users, especially during competitions.
18. Similar to Option 2, the existing Children's Play Area "2A" and "2B" occupied for the reprovisioning of bowling green and the office can be relocated to the area next to the new skating rink under the "Redevelopment of Victoria Park Swimming Pool Complex" project.

19. Also, the reprovisioned bowling green occupies part of the existing west bowling green area in Option 3. The existing west bowling green, the Children’s Play Area “2A” and “2B” have to be closed during the construction of the reprovisioned bowling green.
20. Similar to Option 2, the total number of trees affected is estimated to be around 60 numbers. Although the number of tree affected is less than Option 1, it has to be noted that if the existing Children’s Play Area “2A” and “2B” are relocated to the area next to the new skating rink under the “Redevelopment of Victoria Park Swimming Pool Complex” project, the opportunity for planting at that area is lost. This loss of planting opportunity should also be taken into account when assessing the landscape impacts.
21. The two existing OVTs next to the entrance of the bowling green office are retained in Option 3 as well.
22. A comparison for the three options is given in the table below:

	Layout of the bowling greens to facilitate the users	Implementation Schedule of the reprovisioning work	Impacts to Adjacent existing facilities	Landscape Impacts
Option 1	<ul style="list-style-type: none"> - the existing layout is maintained, which is the preferred layout for the users, in particular during competitions - the existing N-S orientation is maintained, users of both greens are under the same direction of sunlight - the two greens are side-by-side, users of both greens can see each other directly during competitions 	<ul style="list-style-type: none"> - the reprovisioned bowling green can be constructed prior to the closure of the existing bowling green 	<ul style="list-style-type: none"> - the existing Children’s Play Area “3” can be relocated to the original location of the west bowling green. As only a small portion of the Courtyard Garden “2” is affected, it can be compensated by extending it to the landscaped area on the two sides of the existing Courtyard Garden “2”. 	<ul style="list-style-type: none"> - around 160 nos. of trees will be affected - out of the 160 nos. of trees around 35 nos. are affected if the entire Courtyard Garden “2” is reconstructed - no OVTs will be affected
Option 2	<ul style="list-style-type: none"> - the existing layout cannot be maintained - the orientation of the reprovisioned bowling green is skewed, users of both greens are under the different direction of sunlight - the two greens are not side-by-side, users of both greens cannot see each other directly during competitions 	<ul style="list-style-type: none"> - the existing bowling green, the Children’s Play Area “2A” and “2B” have to be closed during the construction of the reprovisioning bowling green 	<ul style="list-style-type: none"> - the existing Children’s Play Area “2A” and “2B” occupied by the reprovisioning of bowling green and the office can be relocated to the area next to the new skating rink under the “Redevelopment of Victoria Park Swimming Pool Complex” project. 	<ul style="list-style-type: none"> - around 62 nos. of trees will be affected - the opportunity for planting at the possible landscape area next to the new skating rink is lost if it is occupied by the Children’s Play Area “2A” and “2B” - no OVTs will be affected
Option 3	<ul style="list-style-type: none"> - the existing layout cannot be 	<ul style="list-style-type: none"> - same as Option 2 	<ul style="list-style-type: none"> - same as Option 2 	<ul style="list-style-type: none"> - around 57 nos. of trees will be

	Layout of the bowling greens to facilitate the users	Implementation Schedule of the reprovisioning work	Impacts to Adjacent existing facilities	Landscape Impacts
	maintained - although the orientation of the reprovisioned bowling green is maintained as N-S direction, the two greens are not side-by-side, users of both greens cannot see each other directly during competitions			affected - the opportunity for planting at the possible landscape area next to the new skating rink is lost if it is occupied by the Children's Play Area "2A" and "2B" - no OVTs will be affected

23. By comparing the three options in respect of the implications to the users for different layout of bowling greens, the implementation schedule of the reprovisioning work, the impacts to adjacent existing facilities and the landscape impacts, as can be seen, neither Options 2 nor 3 perform as well as Option 1.
24. Whereas full-scale reprovisioning of the existing 12-lane bowling green is the basic assumption for the above options and Option 1 is demonstrated to perform better than Options 2 and 3 in this respect, partial reprovisioning of the bowling green with a total of 9 lanes has been explored to further minimise the number of trees affected by the reprovisioning works. A variation to Option 1, namely Option 1A, is presented in Sketch 453 with a 9-lane reprovisioned bowling green. The total number of trees affected is reduced from 160 numbers to 84 numbers.
25. In order to achieve further reduction on the number of trees affected, it is recommended to adopt Option 1A, with partial reprovisioning of the bowling green reduced to 9 lanes, as the basic concept for the reprovisioning of the affected facilities at Victoria Park for the purpose of EIA Study. Consultation and agreement with key stakeholders, such as the Hong Kong Lawn Bowls Association and District Councils, will be carried out in the detailed design stage for finalising the reprovisioning scheme. The number of trees to be affected will be minimised as much as practicable during the detailed design and construction stages of the project.



SKETCH 368A

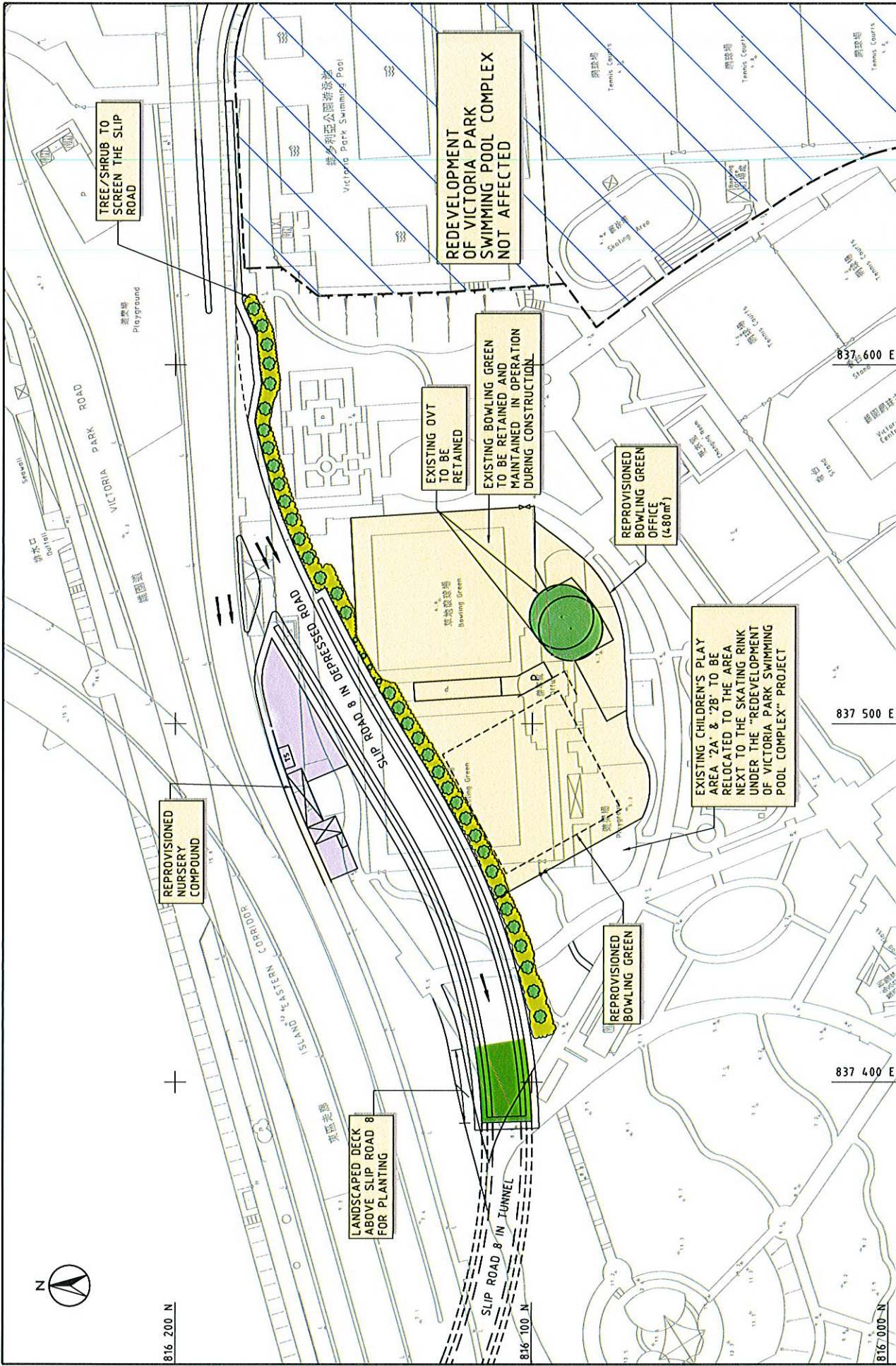
PROPOSED RE-PROVISIONING OF BOWLING GREEN & NURSERY COMPOUND - OPTION 1

WAN CHAI DEVELOPMENT PHASE II - PLANNING AND ENGINEERING REVIEW

MAUNSELL | AECOM
Maunsell Consultants Asia Ltd

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SKETCH 369A

PROPOSED RE-PROVISIONING OF BOWLING GREEN & NURSERY COMPOUND - OPTION 2

WAN CHAI DEVELOPMENT PHASE II - PLANNING AND ENGINEERING REVIEW

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Maunsell Consultants Asia Ltd

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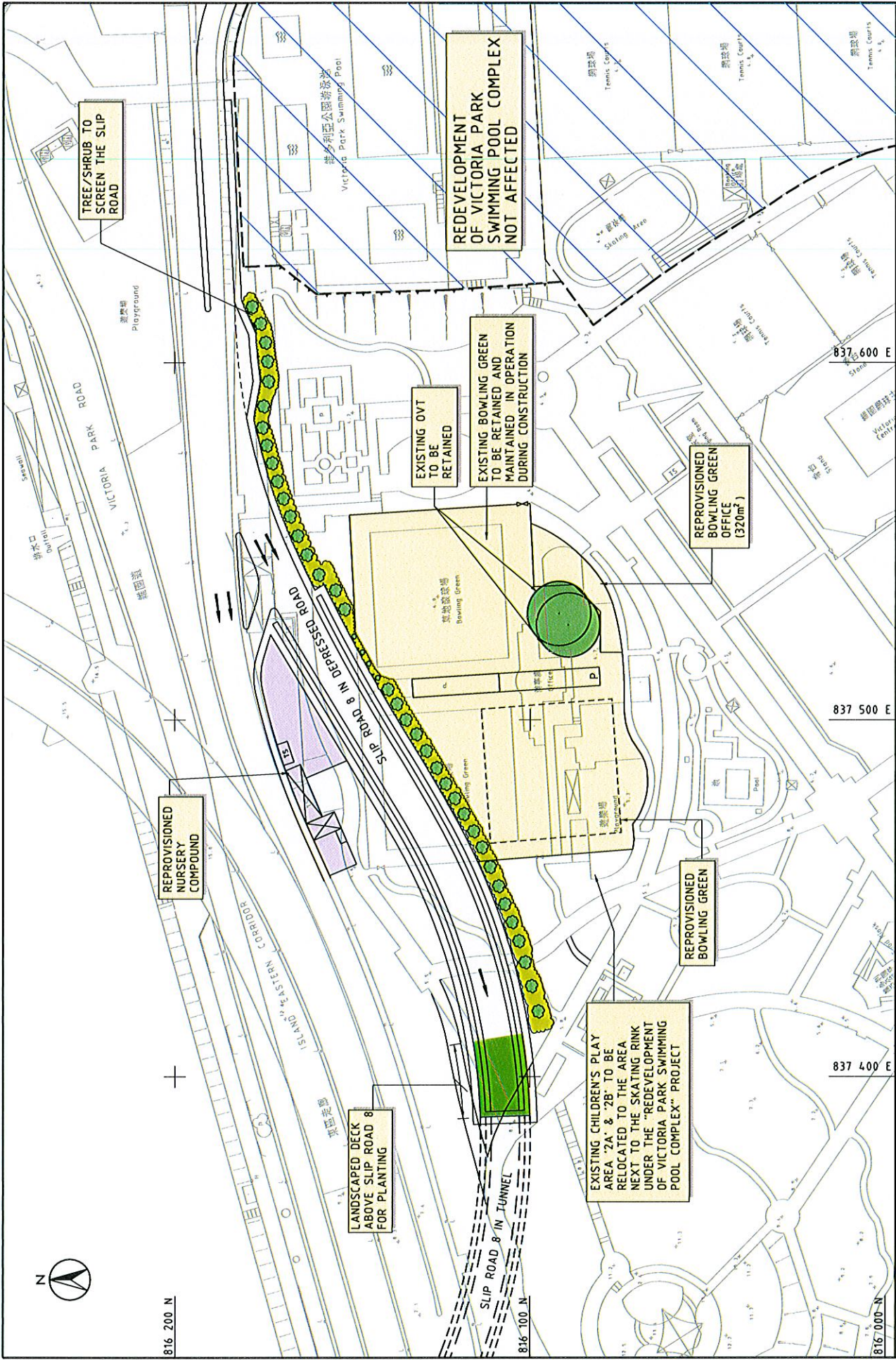
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TREE/SHRUB TO SCREEN THE SLIP ROAD

REDEVELOPMENT OF VICTORIA PARK SWIMMING POOL COMPLEX NOT AFFECTED

EXISTING OVT TO BE RETAINED

EXISTING BOWLING GREEN TO BE RETAINED AND MAINTAINED IN OPERATION DURING CONSTRUCTION

REPROVISIONED BOWLING GREEN OFFICE (320m²)

REPROVISIONED NURSERY COMPOUND

REPROVISIONED BOWLING GREEN

EXISTING CHILDREN'S PLAY AREA '2A' & '2B' TO BE RELOCATED TO THE AREA NEXT TO THE SKATING RINK UNDER THE "REDEVELOPMENT OF VICTORIA PARK SWIMMING POOL COMPLEX" PROJECT

LANDSCAPED DECK ABOVE SLIP ROAD 8 FOR PLANTING

SKETCH 370A

PROPOSED RE-PROVISIONING OF BOWLING GREEN & NURSERY COMPOUND - OPTION 3

WAN CHAI DEVELOPMENT PHASE II - PLANNING AND ENGINEERING REVIEW

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Maunsell Consultants Asia Ltd

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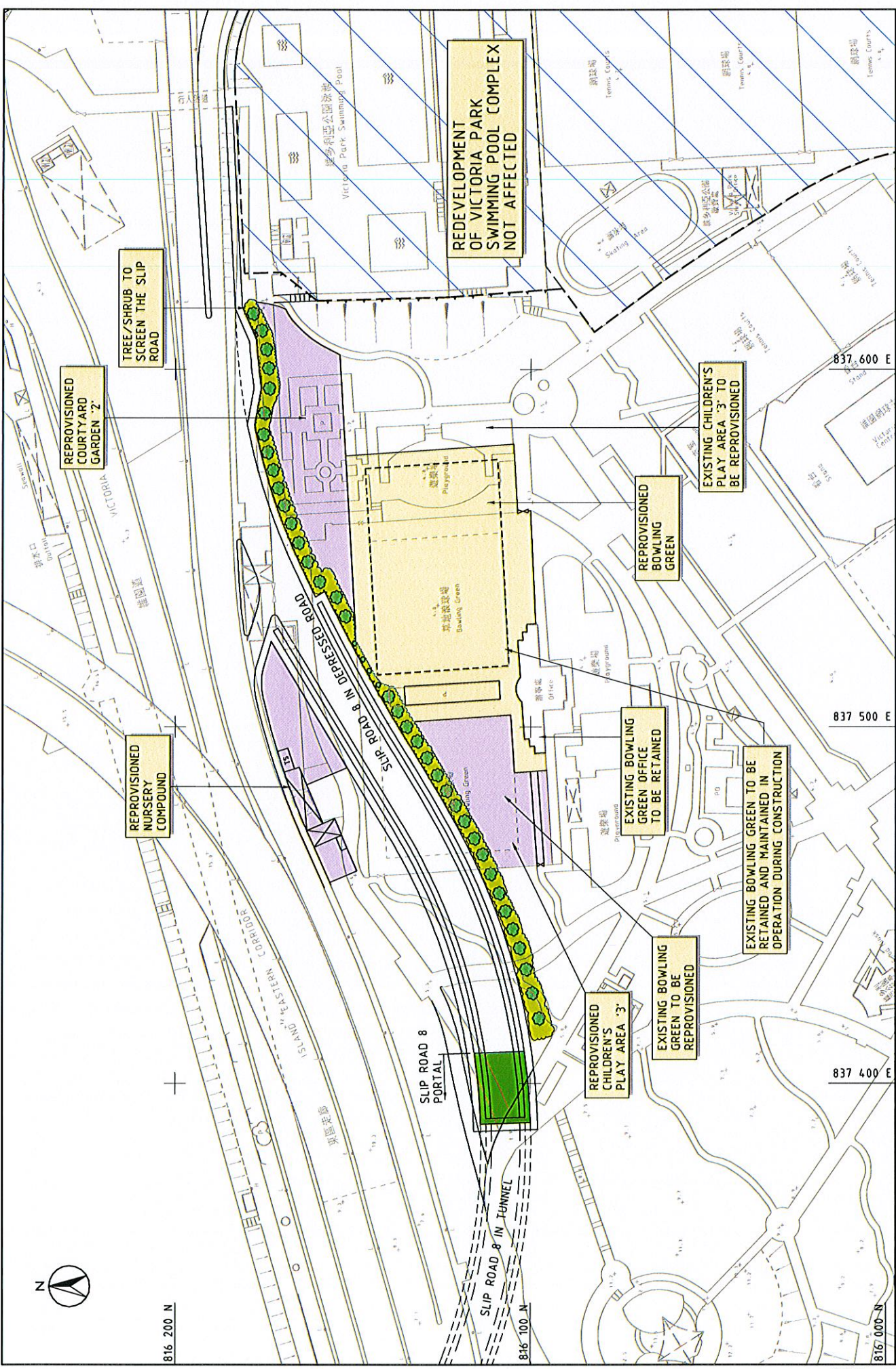
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SKETCH 453

PROPOSED RE-PROVISIONING OF BOWLING GREEN, NURSERY COMPOUND AND OTHER FACILITIES IN VICTORIA PARK - OPTION 1A

WAN CHAI DEVELOPMENT PHASE II - PLANNING AND ENGINEERING REVIEW

MAUNSELL | AECOM
 Maunsell Consultants Asia Ltd

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